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VOL. XVIII. NO. II.

JUNE 1, 1890.

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DEPARTMENT OF AGRICULTURE

PEACE ON EARTH
GOOD WILL TOWARD MEN



CLEANING
IN

BEE CULTURE

DEVOTED
TO
BEEKEEPING

& HOME INTERESTS.
MEDINA, OHIO
BY
A. I. ROOT

TERMS, ONE DOLLAR PER YEAR.

SW Conrad

ENTERED AT THE POSTOFFICE, MEDINA, OHIO, AS SECOND-CLASS MATTER.

ADVERTISEMENTS.

We require that every advertiser satisfy us of responsibility and intention to do all that he agrees, and that his goods are really worth the price asked for them. Patent-medicine advertisements, and others of a like nature, can not be inserted at any price.

Rates for Advertisements.

All advertisements will be inserted at the rate of 20 cents per line, Nonpareil space, each insertion; 12 lines of Nonpareil space make 1 inch. Discounts will be made as follows:

On 10 lines and upward, 3 insertions, 5 per cent; 6 insertions, 10 per cent; 9 insertions, 15 per cent; 12 insertions or more, 20 per cent; 24 insertions or more, 25 per cent.

On 48 lines (½ column) and upward, 1 insertion, 5 per cent; 3 insertions, 10 per cent; 6 insertions, 15 per cent; 9 insertions, 20 per cent; 12 insertions, or more, 25 per cent; 24 insertions or more, 33¼ per cent.

On 96 lines (whole column) and upward, 1 insertion, 10 per cent; 3 insertions, 15 per cent; 6 insertions, 20 per cent; 9 insertions, 25 per cent; 12 insertions, or more, 33¼ per cent; 24 insertions or more, 40 per cent.

On 192 lines (whole page), 1 insertion, 15 per cent; 3 insertions, 20 per cent; 6 insertions, 25 per cent; 9 insertions, 30 per cent; 12 insertions or more, 40 per cent; 24 insertions or more, 50 per cent.

No additional discount for electrotype advertisements.

A. I. Root.

CLUBBING LIST.

We will send GLEANINGS—

With the American Bee-Journal, W'y	(\$1.00)	\$1.75
With the Canadian Bee Journal, W'y	(75)	1.65
With the Bee Hive,	(30)	1.20
With the Bee-Keepers' Review,	(50)	1.40
With the British Bee-Journal,	(1.50)	2.40
With all of the above journals,		5.40
With American Apiculturist,	(75)	1.70
With Bee-Keepers' Advance and Poultryman's Journal,	(50)	1.45

With American Agriculturist,	(\$1.50)	2.25
With American Garden,	(2.00)	2.60
With Prairie Farmer,	(1.50)	2.35
With Rural New-Yorker,	(2.00)	2.90
With Farm Journal,	(50)	1.20
With Scientific American,	(3.00)	3.75
With Ohio Farmer,	(1.00)	1.90
With Popular Gardening,	(1.00)	1.85
With U. S. Official Postal Guide,	(1.50)	2.25
With Sunday-School Times, weekly,	(1.50)	1.75
With Drainage and Farm Journal,	(1.00)	1.75
With Illustrated Home Journal,	(1.00)	1.75
With Orchard and Garden,	(50)	1.40
With Cosmopolitan, (new sub. to Cos)	(2.40)	2.40

[Above Rates include all Postage in U. S. and Canada.]

Names of responsible parties will be inserted in any of the following departments, at a uniform price of 20 cents each insertion, or \$2.00 per annum, when given once a month, or \$4.00 per year if given in every issue.

Untested Queens

FOR \$1.00 FROM JULY 1ST TILL NOV. 1ST.

Names inserted in this department the first time without charge. After, 20c each insertion, or \$2.00 per year.

Those whose names appear below agree to furnish Italian queens for \$1.00 each, under the following conditions: No guarantee is to be assumed of purity, or anything of the kind, only that the queen be reared from a choice, pure mother, and had commenced to lay when they were shipped. They also agree to return the money at any time when customers become impatient of such delays as may be unavoidable.

Bear in mind, that he who sends the best queens, put up most neatly and most securely, will probably receive the most orders. Special rates for warranted and tested queens, furnished on application to any of the parties. Names with *, use an imported queen-mother. If the queen arrives dead, notify us and we will send you another. Probably none will be sent for \$1.00 before July 1st, or after Nov. If wanted sooner, or later, see rates in price list.

*A. I. Root, Medina, Ohio.	
*H. H. Brown, Light Street, Col. Co., Pa.	7tf d90
*Paul L. Viallon, Bayou Goula, La.	7tf d90
*S. F. Newman, Norwalk, Huron Co., O.	7tf d90
C. C. Vaughn, Columbia, Tenn.	9tf d90
Wm. L. Ashe, Edwardsville, Mad. Co., Ill.	9tf d90
J. M. Jenkins, Wetumpka, Ala.	9tf d90
*Oliver Hoover & Co., Snydertown, Northumb.	17tf89
	berland Co., Pa.
*A. F. Fields, Whealon, Putnam Co., Ind.	11-13d
C. R. Mitchell, Birmingham, Jeff. Co., Ala.	9tf d89
N. A. Knapp, Rochester, Lorain Co., O.	15tf d89
J. J. Hardy, Lavonia, Franklin Co., Ga.	9d

Hive Manufacturers.

Who agree to make such hives, and at the prices named, as those described on our circular.

A. I. Root, Medina, Ohio.	
P. L. Viallon, Bayou Goula, Iberville Par., La	7tf d90
C. W. Costellow, Waterboro, York Co., Me.	7tf d90
R. B. Leahy, Higginsville, Laf. Co., Mo.	9tf d90
J. M. Jenkins, Wetumpka, Ala.	9tf d90
W. T. Falconer Mfg. Co., Jamestown, N. Y.	7tf d
F. C. Erkel, La Sueur, La Sueur Co., Minn.	7-9-11d

Queens Ready to Mail

now, and we guarantee safe arrival in any kind of weather. Italian queens, tested, \$2.00; untested, \$1.00; 3 untested, \$2.75. Send for dozen rates. Two-frame nuclei with untested queen, \$2.50; \$26.00 per dozen in April. Make money orders payable at Clifton. Send for price list to 5tfdb

COLWICK & COLWICK, Norse, Bosque Co., Texas.

Please mention this paper.

MUTH'S
HONEY - EXTRACTOR,
SQUARE GLASS HONEY-JARS,
TIN BUCKETS, BEE-HIVES, HONEY-
SECTIONS, &c., &c.
PERFECTION COLD-BLAST SMOKERS.

Apply to **CHAS. F. MUTH & SON,**
Cincinnati, Ohio.

P. S.—Send 10-cent stamp for "Practical Hints to Bee-keepers." 2tf Mention Gleanings. 1tfdb

HOME EMPLOYMENT.—AGENTS

wanted everywhere, for the HOME JOURNAL—a grand family paper at \$1 a year. Big cash premiums.

Sample FREE. **THOS. G. NEWMAN & SON,**

246 East Madison Street, - - CHICAGO, ILLS.

☞ In responding to this advertisement mention GLEANINGS.

& CHOICE ITALIAN QUEENS.✕

Tested, \$1.50. Untested, \$1.00. Tested queens reared in the fall of '89, \$1.50. These can be mailed at once.

7-12db **MISSSES S. & M. BARNES,**

☞ In responding to this advertisement mention GLEANINGS. Picketon, Ohio.

SECTIONS! SECTIONS! SECTIONS!

On and after Feb. 1, 1890, we will sell our No. 1 V-groove sections, in lots of 500, as follows: Less than 2000, \$3.50 per 1000; 2000 to 5000, \$3.00 per 1000. Write for special prices on larger quantities. No. 2 sections at \$2.00 per 1000. Send for price list on hives, foundation, cases, etc.

J. STAUFFER & SONS,
Successors to B. J. Miller & Co.,
Nappanee, Ind.

☞ In responding to this advertisement mention GLEANINGS.

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Japanese Buckwheat. See G. B. Talcott's adv't in GLEANINGS, April 1.

IF YOU ARE IN WANT OF

BEES or BEE-KEEPERS' SUPPLIES,

Send for our New Catalogue.

9tfdb **OLIVER HOOVER & CO.,**
Mention this paper. **Snydertown, Pa.**

4-FRAME NUCLEI, Tested Queen, Brood, and plenty of Bees, Italians, for \$3.50. Imported queens, \$4. **W. A. SANDERS**, Oak Bower, Hart Co., Ga.

LOST! The old prices on Bee-Hives, and new ones found. Send for circular—FREE. **L. J. TRIPP**, Kalamazoo, Mich.
9tfdb Please mention this paper.

ITALIANS For pure Italian bees and queens, and directions to Italianize common bees, address **F. H. & E. H. DEWEY**, 55 Mechanic St., Westfield, Mass.
Please mention this paper.

→*CHENANGO VALLEY APIARY.*←

Please give me your or—Two-frame nucleus, ders, and try my fine yel—with queen, in June, \$2. low Italian queens; are—Tested queen, \$1.50; unfrom imported stock, tested, \$1.00. 8tfdb well known to my cus—**MRS. OLIVER COLE**, tomers. Send for circular **Sherburne, Che. Co., N. Y.**
In responding to this advertisement mention GLEANINGS.

That Hundred-Dollar Queen.

\$1 will purchase a daughter of this wonderful queen. Descriptive circular free. Address 9tfdb **AM. APICULTURIST**, Wenham, Mass.
Please mention this paper.

"HANDLING BEES." Price 8 Cts.

A chapter from "The Hive and Honey Bee, Revised," treating of taming and handling bees; just the thing for beginners. Circular, with advice to beginners, samples of foundation etc., free. 5tfdb **CHAS. DADANT & SON,**
Hamilton, Hancock Co., Illinois.

In responding to this advertisement mention GLEANINGS.

Ho! Ye in Dixie Land!

LEARN SOMETHING NEW

Of Interest to You in my New 1890 Catalogue

Enlarged, and prices reduced. It gives LOW SPECIAL FREIGHT RATES to many Southern points, especially to points in TEXAS.

Southern Bee-Keepers, Send for it NOW.

J. M. JENKINS, - Wetumpka, Ala.

Please mention this paper.

DADANT'S FOUNDATION

Is kept for sale by Messrs. T. G. Newman & Son, Chicago, Ill.; C. F. Muth, Cincinnati, O.; Jas. Heddon, Dowagiac, Mich.; O. G. Collier, Fairbury, Nebraska; G. A. Tinker, New Philadelphia, Ohio; E. S. Armstrong, Jerseyville, Ill.; E. Kretschmer, Red Oak, Iowa; P. L. Viallon, Bayou Goula, La.; Jos. Nysewander, Des Moines, Ia.; C. H. Green, Waukesha, Wis.; G. B. Lewis & Co., Watertown, Wisconsin; J. Mattoon, Atwater, Ohio, Oliver Foster, Mt. Vernon, Iowa; C. Hertel, Freeburg, Illinois; Geo. E. Hilton, Fremont, Mich.; J. M. Clark & Co., 1517 Blake St., Denver, Colo.; Goodell & Woodworth Mfg. Co., Rock Falls, Ill.; **E. L. Gould & Co., Brantford, Ont., Can.**; E. H. Schmidt & Co., New London, Wis.; J. Stauffer & Sons, Nappanee, Ind.; Berlin Fruit-Box Co., Berlin Heights, O.; E. R. Newcomb, Pleasant Valley, N. Y.; L. Hanssen, Daveport, Ia.; C. Theilman, Theilmanton, Minn.; G. K. Hubbard, Fort Wayne, Ind.; T. H. Strickler, Solomon City, Kan.; E. C. Eaglesfield, Berlin, Wis., and numerous other dealers.

LANGSTROTH on the HONEY-BEE, REVISED.

The Book for Beginners, the Most Complete Text-Book on the Subject in the English Language.

Bee-veils of Imported Material, Smokers, Sections, Etc.

Circular with advice to beginners, samples of foundation, etc., free. Send your address on a postal to **CHAS. DADANT & SON,**
4tfdb **HAMILTON, HANCOCK CO., ILLINOIS.**

In responding to this advertisement mention GLEANINGS.

AFTER HIAWATHA.

BY SECOR.

HO! ye gleaners after knowledge
In the field of apiculture,
Stop a moment, please, and read this,
Stop and read this advertisement.
Send and get my creamy MONTHLY,
(I will send three samples gratis)
It contains the views of leading
Bee-men on some special topic;
Points out errors; makes you ponder,
And abandon wrong ideas.
If you'd march with those who "get there,"
Send your stamps to "Hutch the hustler"—
Fifty cents per annum only;
Twelve REVIEWS for only fifty.

Address **BEE-KEEPERS' REVIEW,**
W. Z. HUTCHINSON, Ed. & Prop. Flint, Mich.

In responding to this advertisement mention GLEANINGS.

TESTED CARNIOLAN QUEENS, \$2.50
each; untested, \$1, or 6 for \$5. Send for price list of Italian bees and queens, bred in my Nappanee apiary. 8tfdb **I. R. GOOD**, Vawter Park, Ind.

VIRGIN QUEENS.

Pure Virgin queens at 50 cts. each, or 40 cts. each per 100. **J. B. LAMONTAGUE**, Winter Park, Fla. 8-9-10

→*THE BRIGHTEST*←

Five-banded, golden Italian Bees and Queens, and the **Reddest Drones**. Very gentle; very prolific; good honey-gatherers—working on red clover—and the **Most Beautiful** bees in existence! Took 1st premium at Michigan State Fair, in 1889. Reference, as to purity of stock, Editor of *Review*. Sample of bees, five cents. Untested queens, before June 15, \$1.25; after June 15, \$1.00. Tested (at least 3 bands), \$2.00; selected, tested (4 bands), \$3.00; breeding queens (4 to 5 bands), \$5.00. Virgin queens, 50 cts.; 5 for \$2.00. Safe arrival and satisfaction guaranteed. **JACOB T. TIMPE,**
8-15db **Grand Ledge, Mich.**

In responding to this advertisement mention GLEANINGS.

Wants or Exchange Department.

Notices will be inserted under this head at one-half our usual rates. All ads intended for this department must not exceed 6 lines, and you must say you want your ad in this department, or we will not be responsible for any error. You can have the notice as many lines as you please; but all over five lines will cost you according to our regular rates. This department is intended only for bona-fide exchanges. Exchanges for cash or for price lists, or notices offering articles for sale can not be inserted under this head. For such our regular rates of 20 cts. a line will be charged, and they will be put with the regular advertisements.

WANTED.—To exchange all kinds of wall paper, for honey. 1tfdb J. S. SCOVEN, Kokomo, Ind.

WANTED.—To exchange empty Simp. L. combs at 10 cts. each, for wax or offers. 5tfdb OLIVER FOSTER, Mt. Vernon, Linn Co., Iowa.

WANTED.—To exchange one Green's solar wax-extractor, new, for an incubator or Italian queens. G. C. HUGHES, 6tfdb Pipestem, West Va.

WANTED.—To exchange 1 lb. of thin fdn. for 2 lbs. of wax. 7tfdb C. W. DAYTON, Bradford, Ia.

WANTED.—To exchange comb foundation for beeswax. Samples on application. 8-11db J. P. CONNELL, Hillsboro, Texas.

WANTED.—To exchange for sections, fdn., honey, or offers, an American fruit-evaporator, No. 2; capacity, 10 to 12 bu. apples per day. For description of evaporator, write to American Mfg. Co., Waynesboro, Pa. O. H. HYATT, 9tfdb Shenandoah, Ia.

WANTED.—To exchange an improved Excelsior incubator, 200-egg size, used only two months, for Italian bees. G. N. DOTY, Clyde, Mich. 10-11d

PLY. Rocks, White and Laced Wyandotte eggs, in exchange for foundation, sections, Japanese buckwheat, or offers. T. G. ASHMEAD, 10-11db Williamson, Wayne Co., N. Y.

WANTED.—To exchange one garden wheel-hoe complete, good as new, called Planet Jr. for one Green's solar wax-extractor that is in good repair. JAMES G. HALL, Wyandot, Bureau Co., Ill.

WANTED.—To exchange a good improved farm of 160 acres. Crops on the ground. Every thing ready for business, for apiary or supply business or both. Iowa or Wisconsin preferred. Particulars for particulars. 10d MATTHEW DODDS, Sauk Center, Minn.

WANTED.—To exchange photo outfit for Root's chaff hives in flat, or safety bicycle. F. SHILLING, Jewett, Ohio.

WANTED.—To exchange a fine house and lot in the town of Cadillac, Mich., for bees. This house has rented as high as \$18.00 per month. WALTER HARMER, Manistee, Mich.

WANTED.—To exchange bees and queens, for Barnes saw, Novice extractor, honey-knife, and Excelsior printing-press with 5½x9½-in. chase. 3-11d S. A. SHUCK, Liverpool, Ills.

WANTED.—To exchange one or more finely bred Scotch collie (Shepherd) puppies, for Italian queens, or supplies. 11-12d F. W. GEORGE, Williamstown, Iowa.

WANTED.—To exchange young queens, for honey, or printing. J. C. KING, Fort Deposit, Ala.

WANTED.—To exchange for bees by the pound, or beeswax, a one-horse, railway power, saw-table, shafting, pulleys, and belting, for hive-making; one 18-in. Buckeye Sr. lawn-mower, one Whitman fountain-pump, all in perfect order. Also heavy or light Given foundation, 8½x15 or 10x15. W. D. WRIGHT, Altamont, Albany Co., N. Y.

WANTED.—To exchange Italian bees and queens for maple sugar. Not less than 50 lbs. wanted. MRS. A. M. KNEELAND, Box 77. Mulberry Grove, Bond Co., Ill.

Black and Hybrid Queens For Sale.

For the benefit of friends who have black or hybrid queens which they want to dispose of, we will insert notices free of charge, as below. We do this because there is hardly value enough in these queens to pay for buying them up and keeping them in stock; and yet it is oftentimes quite an accommodation to those who can not afford higher-priced ones.

I have on hand about 20 fine hybrid queens which I will sell at 30c each, or 4 for \$1.00. Selected, 50c. A. A. WEAVER, Warrensburg, Johnson Co., Mo.

Two black and 6 fine prolific hybrid queens for sale. Any one sending 25c each, and ready-provisioned cage, can have them.

T. K. MASSIE, Concord Church, Mercer Co., W. Va.

100 black and hybrid queens to one address for \$25.00. 11-12d ANTHONY OPP, Helena, Ark.

I have a few hybrid queens with some connection mixture, 50c each.

W. H. FOSS, Topeka, Kan.
Care of A. T. & S. F. Store house.

A few hybrid Italian queens for sale at 30c each. LLOYD SECHRIST, Pleasant Home, O.

I still have 6 black queens for sale at 25c each. W. P. W. DUKE, Nettleborough, Ala.

Twenty pure black queens for sale at 30c each, or 4 for \$1.00. Ready by June 5.

THOMAS NICHOLS, Dixie, Nicholas Co., W. Va.

I have about 50 hybrid queens that I will mail to those who speak quick for 25c each. I wish to re-queen my apiary, and dislike to pinch the heads of so many queens.

T. P. GILLHAM, Lincoln, Tenn.

Fifty hybrid queens for sale, 40c each; 3 for \$1.00. J. M. KINZIE, Rochester, Mich.

Black and hybrid queens at 35c each. DAVID DANIEL, West Millville, Clarion Co., Pa.

Mismatched Italian queens at 35c each; 3 for \$1.00. E. S. VICKERY, Hartwell, Hart Co., Ga.

LET US HAVE FAIR PLAY,

is all we ask. We know you will like our Carniolan bees, because we breed from **Pure Imported Stock**. Queens, \$1.00 in June. Give them a **Fair Trial**. Send for printed matter free. Safe arrival. Address **E. L. PRATT**, 8-11db **Pratt Bee-Farm, Marlboro, Mass.**

☞ In responding to this advertisement mention GLEANINGS.

LOOK! Italian Queens, 10 to 75c. Tested, 75c; untested, 45; hybrids, 10c. Safely delivered by F. C. MORROW, Wallaceburg, Ark. Please mention this paper.

WHAT TO DO,

—AND—

How to Be Happy While Doing It.

The above book, by A. I. Root, is a compilation of papers published in GLEANINGS in 1886, '7, and 8. It is intended to solve the problem of finding occupation for those scattered over our land, out of employment. The suggestions are principally about finding employment around your own homes. The book is mainly upon market-gardening, fruit culture, poultry-raising, etc. I think the book will be well worth the price, not only to those out of employment, but to any one who loves home and rural industries. Price in paper covers, 50 cts.; cloth, 75 cts. If wanted by mail, add 8 and 10c respectively.

A. I. ROOT, Medina, Ohio.

Saws that Never Need Filing.

Ever since we first gave notice of the Star saws, some years ago, the blades of which were sold so cheap that a new one could be put in cheaper than to have a saw filed, there has been an immense trade in them. The Millers Falls Co. have recently got out the saw shown in the cut below, that takes



a 14 inch blade, and yet the price is only 50 cts.—saw, blade, and all. Extra blades cost a dollar a dozen; therefore, when your saw needs sharpening it costs less than 10 cts. to have a bright new blade, ready for business. And this is not all. These Star saw-blades, by some special process, are given a higher temper than anything else in the saw line. You can saw a board or a bone, saw off a gas-pipe or a gun-barrel, and all with the same saw. The first one I ever saw I carried down into our machine shop, gave it to our machinist, and told him to see what it was worth. After a few minutes' trial he asked the price and handed out the money, without a word. The truth is, he had never seen anything like it before, for saving iron and steel. The one we picture is made a specialty, to be hung up in the kitchen; and I rather think, my friend, you can not make your wife a better present than to get her one of these saws, to hang up in her kitchen. If you behave yourself, may be she will lend it to you occasionally; but, be sure to bring it back when you are done with it. If you don't, there may be a family jar. If wanted by mail, the price will be 20c extra. Postage on blades, 10c per doz. Star butcher saws have been reduced in price. See page 42 of our latest price list.

A. I. ROOT, Medina, Ohio.

PASTEBOARD BOXES,

Or Cartons, for One-Pound Sections.



Bee-keepers are realizing more and more the value of these cartons for putting their comb honey in marketable shape. Other articles of home consumption are put up in a neat attractive way, and in shape to be handed to the customer, and carried safely without wrapping. Why not sections of comb honey, especially when the cost of the boxes is so low?

TABLE OF PRICES OF 1-LB. SECTION CARTONS.

Name or designation.	Price of 1	25	100	500	1000
1-lb. carton, plain.....	2	.20	.60	2.75	5.00
1-lb. carton, printed one side, name and address.....			.90	3.50	6.00
1-lb. carton, printed on both sides, name and address.....			1.00	3.75	6.50
1-lb. carton, with lithograph label, one side.....	3	.30	1.00	4.50	8.50
1-lb. carton, with lithograph label on both sides.....	3	.40	1.30	6.25	12.00
1-lb. carton, with lithograph label one side, name printed.....			1.30	5.25	9.50
1-lb. carton, with lithograph label, printed with name on both sides.....			1.70	7.25	13.50
Lithograph labels, 2 designs, for 1-lb. cartons.....			.35	1.60	3.00

If sent by mail, postage will be 2 cts. each; or in lots of 25 or more, 1 cent each. All the above have tape handles. Price, without tape handles, 5c per 100, or 75c per 1000 less. The quality of the boxes is fair, being made of strawboard, plated outside. If more than 1000 are wanted, write for prices.

A. I. ROOT, MEDINA, O.

HONEY COLUMN.

CITY MARKETS.

KANSAS CITY.—Honey.—The demand for comb continues good, 1-lb. white selling at 14 cts.; 1-lb. dark, selling at 10¢@12¢; extracted white, 5¢@7¢; extracted amber, 5¢@6¢. We are in good shape for a new crop, which we look for next month.

May 20. CLEMONS, CLOON & Co.,
Cor. Fourth and Walnut Sts., Kansas City, Mo.

DETROIT.—Honey.—There is very little good honey in the market, and by the time new comes in the market will be nearly bare; comb is still quoted at 10¢@13 cts; extracted, 7¢@8. Beeswax in demand at 20¢@28.

May 20. M. H. HUNT,
Bell Branch, Mich.

NEW YORK.—Honey.—Honey market quiet. Extracted California, 7½¢@8¢; Cuban strained, 7¢ cts. per gallon. Beeswax, supplies nearly exhausted; demand good. We quote 29¢@30 per lb.

May 19. F. G. STROHMEYER & Co.,
New York.

BOSTON.—Honey.—No change in honey market here since last writing. BLAKE & RIPLEY,
May 19. 57 Chatham St., Boston, Mass.

SAN FRANCISCO.—Honey.—New honey is already coming in, and we quote 5½¢@6. Comb honey, 9¢@12. Beeswax scarce, 23¢@24.

May 11. SCHACHT, LEMCKE & STEINER,
16 & 18 Drum St., San Francisco, Cal.

COLUMBUS.—Honey.—As the season for old honey closes, the demand decreases. Sales slow at 14 cts. for choice stock. No sale whatever for off grades.
May 20. EARLE CLICKINGER, Columbus, O.

ST. LOUIS.—Honey.—We quote market quiet, as follows: Choice white clover, comb, 12¢@12½¢; dark and inferior, 8½¢@9½¢; extracted and strained in cans, 6½¢@8½¢; barrels, 5¢@5½¢. Prime beeswax, 27.

May 19. D. G. TUTT GROCER CO.,
St. Louis, Mo.

ALBANY.—Honey.—Owing to the continued cool weather the demand for honey during the past week has been very good, at quotations which remain unchanged. C. MCCULLOCH & Co.,
May 22. 339 Broadway, Albany, N. Y.

ONE-PIECE SECTIONS A SPECIALTY.

A. I. Root's style, \$3.00 per 1000. Address
B. WALKER & CO., Capac, Mich.,
10tfdb or Wauzeka, Wis.
In responding to this advertisement mention GLEANINGS.

BARRED PLYMOUTH ROCK EGGS, \$1.00 per 13.
L. C. AXTELL, Roseville, Ill. 8tfdb

Japanese Buckwheat ½ bush. 65c; 1 bush., \$1.10.
D. M. WEYBRIGHT, New Paris, Ind.

KIND WORDS FROM OUR CUSTOMERS.

MARCH'S CAULIFLOWER SEED.

I sowed cauliflower seed on the same day, and in the same bed, from three seed firms, and I tried to sow them just the same; but when they came up, March's seed stood three to one over the other sorts.

Pleasant Hill, Mo., Apr. 14. GEO. M. KELLOGG.

BENTON MAILING-CAGE.

Your imported queen, mailed to me on the 6th, arrived in fine condition on the 10th. I safely introduced her according to directions accompanying her, and upon examination on the 12th I found one frame nearly filled with eggs. I must say your caging and mailing methods are unsurpassed.

Lavaca, Ark., May 14. W. H. LAWS.

ITALIAN * QUEENS.

From June 10th to Oct. 1st.

Why you should purchase of Wood:
He has had many years' experience.
His queen-cells are built in full colonies.
He uses no lamp-nursery.
He is located where there are no black bees, and where foul brood never was known. Fully 95 per cent of his queens prove purely mated.
He fills orders promptly.
He warrants every queen equal to those of any first-class breeder in America.
Price 75 cts. each; \$8.00 for 12.

Address **JAMES WOOD,**
11tfdb North Prescott, Mass.

In responding to this advertisement mention GLEANINGS.

A BARGAIN for some one. One hundred colonies of bees in S. frame, double story, and in No. 1 order. Will take \$200.00.
11-12 ANTHONY OPP, Helena, Ark.

BRIGHTEST GOLDEN ITALIAN BEES AND QUEENS, —AND THE— REDDEST DRONES IN THE WORLD.

Untested, \$1.00 | Tested, \$2.00 | Select tested, \$3.00
Special breeding, guaranteed to please, \$5.00.

L. L. HEARN, - FRENCHVILLE, - - W. VA.
11tfdb Please mention this paper.

A New Discovery.

THE COMMON-SENSE HONEY-EXTRACTOR is strictly scientific, powerful, durable, handy, clean, and rapid, and differs from all others, and is cheaper than the cheapest at bankrupt prices. CIRCULARS FREE.

REV. A. R. SEAMAN.
New Cumberland, Hancock Co., W. Va.
9-10d Please mention this paper.

IF YOU WANT BEES

That will just "roll" in the honey, try Moore's Strain of Italians, the result of eleven years' careful breeding. Prices: Warranted queens, \$1.00 each; 3 for \$2.50. Strong 3 L. frame nucleus, with warranted queen, \$3.00. Safe arrival and satisfaction guaranteed. Those who have never dealt with me, I refer to A. I. Root, who has purchased of me, during past ten years, 415 queens. Address

J. P. MOORE, Morgan, Pendleton Co., Ky.
Money-order office, Falmouth, Ky.

In responding to this advertisement mention GLEANINGS.

1890 FINE ITALIAN QUEENS, each, 75c; six, \$4.00. Will be up with orders by June 10th.
W. H. LAWS, Lavaca, Ark.

BEES! Yes, all the bees you want, at 75 cts. per lb.; 200 full swarms to draw from. Can fill all orders for bees by return mail.
R. E. SMITH, Tilbury Center, Ont. Box 72.

In responding to this advertisement mention GLEANINGS.

TESTED ITALIAN QUEENS, \$1.00.

W. R. GARDINER, Eustis, Fla.

CHAFF AND SIMPLICITY HIVES shipped on receipt of order. Price list free.
11tfdb E. J. SHAY, Thornton, Taylor Co., W. Va.



Eaton's Improved SECTION CASE.
BEES AND QUEENS. Send for free catalogue. Address
FRANK A. EATON,
2-13db Bluffton, Ohio.

In responding to this advertisement mention GLEANINGS.

FOR SALE.—ITALIAN BEES & QUEENS at a very low price. Address
6tfdb **OTTO KLEINOW,**
No. 150 Military Ave., Detroit, Mich.

BEE-HIVES, SECTIONS, ETC.

WE make the best Bee-Hives, Shipping-Crates, Sections, etc., in the world, and sell them the cheapest. We are offering our choicest white one-piece 4½x4½ sections, in lots of 500, at \$3.50 per 1000.

Parties wanting more should write for special prices. No. 2 sections, \$2.00 per 1000. Catalogues free, but sent only when ordered. 1tfdb

G. B. LEWIS & CO., Watertown, Wis.

In responding to this advertisement mention GLEANINGS.

THE CANADIAN*

Bee Journal *Poultry Journal*

Edited by D. A. Jones. Edited by W. C. G. Peter.

75c. Per Year.

75c. Per Year.

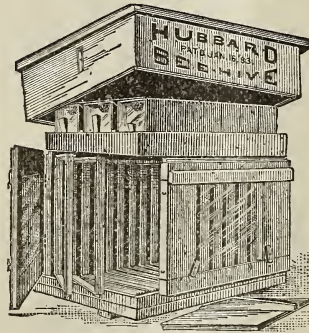
These are published separately, alternate weeks, and are edited by live practical men, and contributed to by the best writers. Both Journals are interesting, and are alike valuable to the expert and amateur. Sample copies free. Both Journals one year to one address \$1. Until June 1st we will send either Journal on trial trip for 6 months for 25 cts.

The D. A. Jones Co., Ltd., Beeton, Ont.

Please mention GLEANINGS.

6-11db

FORT WAYNE, IND.



CIRCULARS FREE.
ASK FOR SAMPLE ONE-PIECE SECTION IF YOU WANT IT.
G. K. HUBBARD,
277 S. HARRISON ST.,
FT. WAYNE, IND.

If you are ever annoyed by the scraping and breaking of combs; killing bees when setting a frame to one side, or hanging it in the hive; sagging at the bottom and getting waxed fast; shaking about when moving a hive; in short, if you dislike to pry and wrench your frames, break combs, and kill bees while handling them, you will be pleased with this hive.

VERY CONVENIENT. AGENTS WANTED.
10 For "1st Principles in Bee Culture" It tells how to Divide, Transfer, Introduce Queens, Feed, Unite, Stop Robbing, &c. Money returned upon return of book, if you are not satisfied.
Please mention GLEANINGS. 8-13db

FOR SALE -- BEES.

Good colonies in shipping-cases, with 9 Langstroth frames. Hybrids, \$3.00, delivered at railroad station any time after May 1.

8tfdb **MISS MABEL FENN, Tallmadge, Ohio.**

In responding to this advertisement mention GLEANINGS.

SECTIONS.

\$2.50 to \$3.50 per M. Bee-Hives and Fixtures cheap. **NOVELTY CO.,**

6tfdb **Rock Falls, Illinois.**

Please mention this paper.

BROWN LEGHORNS STILL AHEAD. EGGS, \$1.00 PER 13, \$1.50 PER 26. A. F. BRIGHT, Mazeppa, Minn.
7tfdb

50 COLONIES OF ITALIAN AND HYBRID BEES for sale at \$3.50 per colony, in shipping-boxes, L. frames. Also eggs from W. Wyandottes, W. Minorcas, and Pekin Ducks. Eggs, \$1.00 per 13.
9-10-11d **M. H. FAIRBANKS, Homer, N. Y.**
Please mention this paper.

Bee-Keeping for Profit

IS THE TITLE OF

Dr. Tinker's New Hand - Book.

It gives his **New System** of the management of bees complete, telling how to get the largest yields of comb and extracted honey, and make the industry of bee-keeping a profitable one. The claim is made that our old methods and appliances are of such a nature that it does not pay even the expert bee-keeper to keep bees except in very favorable localities. The New Book tells why these failures occur and how to prevent them, giving the general principles essential to a profitable system. The work should be in the hands of every progressive apiarist. It is well illustrated, and will be sent to any address postpaid for 25 cts. Please remit by postal note. Address

DR. G. L. TINKER, New Philadelphia, Ohio.

Please mention this paper.

10tfdb

QUEENS.—Fine home-bred Italians, and imported, from Waldensian Valley. Circular free. 10-11-12d CHRISTIAN WECKESSER, Marshallville, O.

FOR PURE ITALIAN BEES, POLAND-CHINA SWINE, WHITE AND BLACK FERRETS, WHITE RABBITS, WHITE AND BROWN LEGHORN CHICKENS, AND MALLARD DUCKS. Address **N. A. KNAPP, Rochester, Lorain Co., Ohio.** 10tfdb

In responding to this advertisement mention GLEANINGS.

LOOK!

Three-frame nuclei with Italian queen from imported mother, \$2.50 each. Satisfaction guaranteed.

M. W. SHEPHERD, Rochester, O.

In writing to advertisers please mention this paper. 10 14db

BIG 3-FRAME NUCLEI, WITH QUEEN from imported Italian mother, for \$2.50. Full colonies low. Thirty Rose Comb Brown Leghorn eggs for \$1.00. Safe shipment guaranteed. 10tfdb G. W. GILLET, Wellington, Ohio.

In responding to this advertisement mention GLEANINGS.

BEST ON EARTH



ELEVEN YEARS WITHOUT A PARALLEL AND THE STANDARD IN EVERY CIVILIZED COUNTRY.



Bingham & Hetherington
Patent Uncapping-Knife,
Standard Size.

Bingham's Patent Smokers,

Six Sizes and Prices.

Doctor Smoker,	3 1/2 in.,	postpaid	\$2.00
Conqueror "	3 "	"	1.75
Large "	2 1/2 "	"	1.50
Extra (wide shield)	2 "	"	1.25
Plain (narrow "	2 "	"	1.00
Little Wonder,	1 1/4 "	"	.65
Uncapping Knife.....			1.15

Sent promptly on receipt of price. To sell again, send for dozen and half-dozen rates.

Milledgeville, Ill., March 8, 1890.

SIRS:—Smokers received to-day, and count correctly. Am ready for orders. If others feel as I do your trade will boom. Truly, F. A. SNELL.

Vermillion, S. Dak., Feb. 17, 1890.

SIRS:—I consider your smokers the best made for any purpose. I have had 15 years' experience with 300 or 400 swarms of bees, and know whereof I speak. Very truly, R. A. MORGAN.

Sarabsville, Ohio, March 12, 1890.

SIRS:—The smoker I have has done good service since 1883. Yours truly, DANIEL BROTHERS.

Send for descriptive circular and testimonials to 10tfdb BINGHAM & HETHERINGTON, Abronja, Mich.

In responding to this advertisement mention GLEANINGS.

Ah THERE! One untested Italian queen, 75c; three for \$2.00; tested, \$1.50. One untested Carniolan queen, \$1.00; three for \$2.50; tested, \$2. Bees by the pound and nucleus. Send for price list. Reference—First National Bank.

10tfdb

H. G. FRAME, North Manchester, Ind.

Please mention this paper.



In responding to this advertisement mention GLEANINGS.

Look Here! Supplies Cheap

Italian and Albino Queens and Bees; Chaff and Simplicity and Nonpareil Hives. Extractors, Smokers, Foundation, Surplus Section Boxes, Root's Perforated Zinc. Price List Free. Write for One.

A. A. BYARD, WEST CHESTERFIELD, CHESHIRE CO., N. H.

In responding to this advertisement mention GLEANINGS.

125 COLONIES ITALIAN BEES AT BOTTOM PRICES. A. F. BRIGHT, Mazeppa, Minn. 7tfdb

Carniolan Queens.

Send for Descriptive Circular to

DR. S. W. MORRISON, Oxford, Pa.

9tfdb

Please mention this paper.

Pure Italian Queens.

BEES, TESTED, \$1.00; UNTESTED, 50 CTS.

I. GOOD & STEWART BROS.,
Sparta, White Co., Tenn.

In responding to this advertisement mention GLEANINGS.

Rheumatism * Bees.

No doubt the best bees for curing rheumatism are pure-bred Italians that prove to be good workers and work on red clover.

We have such if you want good stock to work with and to secure you plenty of honey.

Tested queens in May, - \$1.50; in June, - \$1.25
Unt'd " " - 1.00; 3 for - 2.50
" " June, - 75; 3 for - 2.00

For wholesale prices, nuclei, lbs. of bees, and all kinds of bee-supplies, write for our 16 p. circular.

9tfdb

JNO. NEBEL & SON, High Hill, Mo.

Mention this paper.

Knickerbocker Bee - Farm.

SEND FOR

CIRCULAR & CALENDAR

FOR 1890 TO

GEO. H. KNICKERBOCKER,

Box 41. Pine Plains, Dutchess Co., N. Y.

10-11d

Mention GLEANINGS.

200 LBS. BEES.
50 Italian Queens

Bees, 90 cts. per lb.; Queens, \$1.00 each.

S. C. PERRY, Portland, Ionia Co., Mich.

10-11-12d

Please mention this paper.

SPECIAL NOTICES.

HENDERSON'S BUSH LIMA BEAN.

As the bush lima bean does not seem to go off this spring as we expected it, we reduce the price one-fourth after June 1. After June 15, if we have much stock on hand the price will be one-half the regular price of \$1.00 per quart.

THE PLANT-TRADE, JUNE 1.

We have been short on almost every thing this spring, except celery. We have now in stock, and have had all along, large transplanted celery-plants, White Plume and Golden Self-blanching, and these are considered best for early. We have also at present all kinds of cabbage and all kinds of tomatoes, advertised in our seed catalogue. We are short on cauliflower, in spite of all the efforts we have made to set them growing. We are also short on pepper-plants.



JAPANESE BUCKWHEAT.

It will soon be time to sow buckwheat, and, of course, no one will think of sowing any thing else, after the record the Japanese has made. It has, in fact, brought the price of buckwheat down to a point seldom if ever known before. In our locality, from the 20th of June to the 1st of July is the usual time for sowing it. It will, however, usually give a crop almost any time during the month of July. As much as 50 bushels per acre have been secured, and it rarely sells for less than 50 cts. per bushel. It is harvested so soon after sowing the seed that you get quick returns. We have a large stock of seed ready to ship by the first train, at following prices. Per lb., 5 cts.; 40 cts. per peck; 75 cts. per $\frac{1}{2}$ bushel, or \$1.00 per bushel; \$2.50 for 2 bushels; in lots of 10 bushels or more, \$1.10 per bushel, bag included in every case, without charge. Put in two or three pecks per acre, according to the condition of the soil. Now, please bear in mind that there is always trouble in shipping small lots of buckwheat, either by freight or express, because the charges are more than the value of the seed. A few days ago a friend wanted a peck of buckwheat sent away down to Texas. After the figuring up, we found the cheapest way to get it to him was to send it by mail, at an expense of over \$1.00 for postage, while the buckwheat and bag cost him only 40 cts. To prevent disappointment, ask what the probable expense will be, before you make your order.

FILLING ORDERS AT THE HOME OF THE HONEY-BEES.

At this date, May 28, we are still running night and day, and every thing is booming in every de-

partment. Hold on! There is one room in our establishment that has been for one or two days deserted and dull. When orders poured in until we were a full thousand behind, we decided to stop sending out price lists except to applicants; therefore the big printing press was shut down, and the pressman went to helping the boys in the next room to fill orders. For a time it seemed that nothing could keep pace with the flood of orders. We were 500 orders behind, then 700; and when it was more than 1000, things began to look desperate. By redoubling our efforts, however, and permitting those who could stand it to put in 14 or 15 hours a day, in one week we got the 1000 back to 700 again, and now we are reducing it still more; but many of our customers have lost all patience, and are demanding their money back.

Now, do not imagine, dear friends, that we are not able to fill orders for anything promptly. One poor friend asked if we could not possibly send him a sheet of perforated zinc, letting the rest of his order remain. Why, we could send you any amount of zinc by return train, and, in fact, almost any thing else, except bee-hives and sections. All goods ordered by express or mail, have, with hardly an exception, gone within 24 hours. The great unfulfilled want is for sections, and the rainy weather has made it impossible to dry the basswood, and this has been one great obstacle in the way. We are now having beautiful warm sunny days, and the basswood is fast getting fit to work.

Of course, our dry-kiln is running night and day, with the rest of our machinery; but we find even that inadequate, unless backed up by bright sunny weather. As heretofore, many of our troubles and delays have been caused by hasty writing and imperfect addresses. We had a list of seven men who had sent us money, and yet their orders could not be found. Four of the seven have been straightened out and their things sent. The trouble was, in their letters of inquiry they wrote their names so badly that nobody could decipher them accurately. Oh, if you only *would* have your correct name and address printed on your stationery, all of you, what a great help it would be!

Wire Cloth.

For door and window screens, tacking over hives and nuclei for shipping, making bee and queen cages, and a variety of purposes. We have the following list of green and black wire cloth which is not exactly first class, but is practically as good for the purposes mentioned, and at prices MUCH BELOW the ordinary price. You can no doubt select from this list a piece to suit your needs. Price in full pieces, $1\frac{1}{4}$ cts. per square foot. When we have to cut it, 2 cts. In case the piece you order may have been taken by some one else before your order comes, please say whether we shall send the nearest in size, or cut one the size ordered at 2 cts. per ft., or give a second or third choice.

No. of Rolls, and Color.	Width, In's.	Length, Ft.	Sq. Feet.	Price of a Full Roll.	Pieces less than 100 ft. long. These figures are the number of square feet in each piece. Multiply by $1\frac{1}{4}$ cents for the price of piece.
10 green	8	100	87	\$1.17	65, 65, 64, 63, 63, 62, 64, 40, 33
1 green	10	100	83	1.46	
25 green	12	100	100	1.75	44, green; price 77 cts.
1 green	14	12	14	.25	
2 green	16	100	133	2.33	
1 black	18	100	150	2.62	
4 green	18	100	150	2.62	
1 black	20	100	167	2.92	
1 black	22	71	128	2.24	110 sq. ft., black; price \$1.92
9 green	24	100	200	3.50	140, 100, 90, 40, 30, 20, 8, green.
1 black	24	100	200	3.50	
61 green	26	100	217	3.50	This is below reg. pr. of $1\frac{1}{4}$ c.
18 green	28	100	233	4.08	224, 224, 117, green; 233, black.
2 green	30	100	250	4.37	
3 black	30	100	250	4.37	
12 green	32	100	267	4.67	
1 black	32	100	267	4.67	253, black; price \$4.43
					255, black; price \$4.46
14 green	36	100	300	5.25	270, green; price \$4.72
1 black	36	100	300	5.25	150, black; price \$2.62
8 black	38	100	317	5.54	269, black; price \$4.70
3 green	38	100	317	5.54	258, black; price \$4.50
3 black	40	100	333	5.83	317, black; price \$5.54
8 black	42	100	350	6.12	350, green; price \$6.12
1 green	44	100	367	6.42	

A. I. ROOT, Medina, Ohio.



Vol. XVIII.

JUNE 1, 1890.

No. 11.

TERMS: \$1.00 PER ANNUM IN ADVANCE; 2 Copies for \$1.90; 3 for \$2.75; 5 for \$4.00; 10 or more, 75 cts. each. Single number, 5 cts. Additions to clubs may be made at club rates. Above are all to be sent to ONE POSTOFFICE.

Established in 1873.

PUBLISHED SEMI-MONTHLY BY

A. I. ROOT, MEDINA, OHIO.

Clubs to different postoffices, NOT LESS than 90 cts. each. Sent postpaid, in the U. S. and Canada. To all other countries of the Universal Postal Union, 18 cts. per year extra. To all countries not of the U. P. U., 42 cts. per year extra.

A SOLAR WAX-EXTRACTOR FOR LIQUEFYING CANDIED HONEY.

RIPENING EXTRACTED HONEY BY MEANS OF A SOLAR WAX-EXTRACTOR.

THE illustration in GLEANINGS of April 15 has brought some inquiries in regard to the mammoth solar wax extractor shown there. A few explanations will probably make it better understood.

In size it is 5 ft. 3 in. x 2 ft. 9 in., and 8 in. deep. A chamber at the lower end, where a pan catches the melted wax, makes the entire length about 6 ft. It is made of $\frac{3}{4}$ -inch pine lumber. The bottom is of narrow matched stuff, to make it tight. It is thoroughly painted a dark color, inside and out, and covered with glass. On the upper part I have used window-sash, which is removable. The lower part, or chamber, has glass, also removable, for the convenience of getting at the wax-dish. It is mounted on wheels in front, for convenience in moving, with legs at the back end, giving it an incline of about 45 degrees.

This extractor works very nicely, as illustrated and described. But I will note some of the improvements suggested by its use. The window-sash are a little imperfect, as the bars of wood between the glass obstruct the sun so that the wax cools under them in their shadow. It would be better to have the glass unobstructed by bars, or at least have them as small as possible. Two large glasses, I think, in place of the sash, would be a decided improvement.

Reflectors would give some additional heat, and make the machine much more complete. I designed these to hinge upon each side, and to answer, when closed, as a cover to protect the glass and keep out the dust and rain when not in use, having them wide enough to shut together in roof

shape, and lined on the inside with tins to reflect the sun. These can be fastened open at any angle desired, when used as reflectors.

A correspondent asks, "What prevents the combs from sliding down when they melt?" They will not slide down; but the wax will melt and run out, and leave the old comb and residue, which can be removed at your leisure. It gets out the wax in the best condition, and with the least labor of any method I have ever tried, and I have tried a good many ways; and I am not done yet. I have something else to say about the solar extractor. We all know how much trouble it is to liquefy granulated honey. But some one says, "Don't do it." But we have to do it sometimes; and when we have occasion to do a job of this kind, just place it in the solar extractor, if in cans or pails, or any convenient packages to go inside; or if in bulk, have a large pan on purpose. It is much better than any method where artificial heat is used. It can also be used to evaporate extracted honey by having a wire-cloth screen at the upper end, to be opened for ventilation. In order to make it convenient for melting or evaporating honey, I would suggest, instead of fixed legs at the back end, a standard with holes through it, and a pin with which to fasten the machine at any desired inclination. It could then be let down to a horizontal position for this purpose. Just put the honey in and go about your business. It won't burn nor spoil, but the work will be done in the cheapest and very best possible manner.

The greatest drawback I have found in the use of a machine of this kind is a lack of sunshine. You will be as astonished as I was when you come to use one, at the very few days in the whole season in which we have clear, unobstructed sunshine—a necessary condition for the complete success of

a solar extractor. And isn't it also possible that this lack of sunshine for the last few years plays an important part in the failure of the honey crop? Yet I regard it as a valuable acquisition to the apiary, in any locality; but in the South, in the land of perpetual sunshine, I should place it beside the extractor and foundation-mill for usefulness in the apiary—an indispensable labor-saving machine.

Now I am done. If you are ingenious I think you will be able to build the extractor, as described and illustrated.

H. R. BOARDMAN.

East Townsend, O., May 8.

Friend B., I congratulate you on your discovery that the solar wax-extractor is the best thing for liquefying granulated honey. May be the idea has come up before; but if so, I had forgotten it. But, are you sure that the heat of the sun will never injure the honey? If so, it is a big item in its favor. In our greenhouse experiments we have had ample opportunity to see how many sunshiny days there are. But we have had an unusual amount of cloudy weather for three seasons past. Wait until we have a drouth; then you can render wax, and liquefy the honey to good advantage. The glass should most surely be put in greenhouse fashion—that is, so as to let the water run down unobstructedly, and large pieces of glass are certainly an advantage over the small ones. Would not a large screw, such as is used in the bottom of a music-stool, be the best thing to get the proper inclination? or, better still, have two such screws, one on each back corner. Now have the front raised on a pivot, and you can have any angle you choose. I suppose one reason why solar wax-extractors are so much more common in California is because of the perpetual sunshine there. In fact, I am told that they have at least some sunshine every day in the year, and a good deal of the time whole months without an obstructing cloud. For a honey-evaporator you must have ventilation both at top and bottom, to get the best advantage. We tried drying green corn in our greenhouse, but it would not dry a bit. It only turned sour unless ventilation was given sufficient to let a light stream of hot air pass over and through the corn.

EXHIBITIONS AT FAIRS.

PROF. COOK SUGGESTS SOMETHING IMPORTANT.

Dear Mr. Root:—You will remember that, at the Michigan State Bee-Keepers' meeting held last winter at Lansing, the question of exhibits at fairs was fully discussed. You will remember my surprise when some persons present said it was not necessary that the exhibitor should have produced the honey which he exhibited; that he might get it anywhere. At our Michigan Central Bee-Keepers' meeting the other day, the question came up again. It was the unanimous opinion of those present that all honey should be produced by the exhibitor, and all but one person thought it should be the product of the year in which the exhibition was made. I was appointed a committee to urge upon the authorities that this opinion should be embodied in a rule governing all future exhibitions at our State Fair. I have consulted the authorities, and find

that we are too late for this year. The premium list is printed, and can not now be changed. I should like your opinion on this subject, and also the opinion of others. It seems to me that equity, and the entire aim of such exhibitions, demand that no person exhibit other than his own product. Fairs are not to stimulate hunting about to find beautiful honey, but to incite to its production. If this rule is adopted, then the neat, skillful apiarist, not the traveling collectors, will get the premiums. Ought he not to have them?

The other question, production during the year of the exhibition, might be opposed, as, during very poor years, it might be difficult to make a fine exhibit, and if a man made a fine design of wax he might desire to use it successive seasons. Yet even here it is the only fair way. Then all are on an equal footing, which would not be true if honey produced in previous years could be exhibited. Wax for ornament could be brought, no matter when fashioned; while that for premiums should have been produced the season of the exhibit.

Thus it seems to me that such a rule should be made to govern in all our fairs. The exhibit should be the product of the exhibitor, and should have been produced the year of the exhibition. Is this not so? Let others speak.

ADULTERATED HONEY.

Mr. R. A. Hardy, of Lampasas, Texas, sends me some extracted (?) honey which he says is sold in his vicinity by a bee-keeper in an adjoining town. He thinks some artificial feed was given to the bees, which they stored in the combs. He desires me to state through GLEANINGS what I think it is, and how prepared.

I should say that this is genuine honey—at least I see no reason to think otherwise. I do not know the kind. It seems rank, both in taste and odor, like some of our autumn honey at the North. There seems to be much wax in it, as though capings were left in. In a mouthful of the honey one gets quite a mass of the wax. I should say that this was a very questionable way to prepare extracted honey for market, and I should not suppose it could compete with honey that is free from wax, etc. Bee-keepers should be careful to exclude all substances from extracted honey, else buyers will suspect adulteration.

FLORIDA BEETLES.

Dr. J. H. Hunt, Tallahassee, Florida, sends me several beetles in a strong box, with cotton, by mail. They came in nice shape, and all alive. He says he finds them quite abundant about his hives. He reports that they seem eager to get into the hives, but for what purpose he can not tell. He can discover that they do no benefit or injury. He can almost always find them on the enamel cloth above the bees, and very often sees them going into the entrance of the hives. "Please give name and your opinion of their object in visiting the hives. I shall be glad to send you more if you wish them for experiment for your cabinet, or for the college."

This beetle is *Euphoria sepulchralis*, Fab. It is half an inch long, and is dark brown, with dashes of white on its back. I have it from Maryland, District of Columbia, Georgia, Florida, and Texas. Thus we see that it is widely distributed in the South. We have two of the same genus north, *E. inda* and *E. melancholica*. The latter looks very much like this one, except that it is a little larger. Ours as grubs live in the earth, and feed on roots of

vegetables; and as mature beetles, both feed on ripe fruit like apples, peaches, and on soft green corn. This gives a pretty decided hint as to the attraction which the bee-hive has for this Southern species. I think that, without doubt, they have sampled Dr. Hunt's honey, and, finding it quite to their taste, they help themselves as inclination prompts. I hope Dr. Hunt and others will examine closely and see if this is not so. If it is a fruitless search in the hives, try some in a box with a glass cover, in which a small piece of honey in comb is placed, or some candied honey, and see if they do not prove my conjecture true. Our *E. inda* flies much like a bumble-bee, and is easily mistaken, when on the wing, for one. I am very glad to receive insects from Dr. H. and others.

A. J. COOK.

Agricultural College, Mich., May 10.

Friend Cook, I am very glad to have you take this matter up. At different conventions it has been urged that the course you propose would certainly result in tempting people to tell lies. Now, there may be something in that; but, notwithstanding, I would have it exactly as you say. It has often been urged that our rules in regard to the use of tobacco in our establishment and on our grounds would result in inducing boys to become hypocrites. Perhaps it does now and then; but I think the good the rules do, far overbalances this occasional evil. I feel satisfied that the original purpose of county fairs was to encourage improved farming, and improvements in all rural industries. If the exhibitor does not bring the product of his own handiwork, what does it amount to? In our neighborhood it is quite fashionable for boys to borrow choice specimens of poultry from those who have not time to make the exhibits and carry off the premiums. It is surely all wrong. Let the judges make careful inquiry, and ascertain whether the exhibitors are residents of the county, and whether they are men of character. A little inquiry will easily determine. Then this fashion of going about from fair to fair, and getting a premium on the same article, will be done away with. Of course, I allude to rural products. Those who wish to advertise goods they have for sale, are, of course, privileged to get said goods in any way they choose; but in competing for premiums on the products of the soil, it seems to me none but the producer should have a premium.

Your experience is like my own in regard to samples of honey sent in, purporting to be spurious. I think that, in every case, I have pronounced them genuine. Those who are looking out for fraud of this kind, fail to consider that bees often gather natural honey of a very poor quality.

BEES IN THE AXTELL APIARY.

FEEDING SORGHUM IN OPEN-AIR FEEDERS.

This afternoon I was out and worked six colonies of bees through, clipping the queens' wings and getting them in a condition that will need no more work until we go through to build up into strong colonies just before the honey harvest. It is almost too early to clip queens now; but I am weak, and can't work long at a time, and I want to com-

mence now, so as to do all that I can of it myself, for several reasons. One is, I want the outdoor exercise and bee-stings, to build me up; and another reason, if I do it it will leave that much more time for Mr. Axtell to do something else that I can not do. Again, I think I can do it just a little more carefully than any one else. I believe many colonies are injured by careless handling. Perhaps I should not call it carelessness, but the lack of ability to do every little thing that needs to be done with that exactness that contributes to the welfare of the colony. And still another reason for wanting to work the hives myself is to see just how much stores they have, and how much and often we need to feed.

Those hives we put out in the middle of February because we could not keep so many in the cellar cool enough, are, some of them, nearly out of honey, but they have large quantities of brood and plenty of bees; while the remainder, carried out the latter part of March, have honey to last a month longer, and have less brood and fewer bees.

FEEDING BLACK SORGHUM MOLASSES.

We are feeding very black sorghum molasses that is two or three years old, and soured a little, and honey, half and half, melted together. Yesterday we fed a pail of each, and four of water stirred together—six pailfuls to 136 colonies. Before night they had taken it all up. It should be just thin enough so that the bees will fill themselves and fly home without crawling off upon the grass to clean themselves off first, which they will do if too thick. We shall gradually take away the honey, though I think they will not take such black molasses without some honey or sugar. The better the molasses, the less honey or sugar is needed to get them to take it. If they won't take it at first, or if we don't get in enough honey, we dilute some honey and sprinkle around over the feeders to start them. Our feeders are the large water-tight boxes we had to drain our extracted combs, in with thin boards nailed together just two bee-spaces apart, as floats in the boxes.

I examined each colony carefully, as we never fed such poor molasses before. It has been about three weeks since we began to feed. We fed once or twice a week. The bees look very thrifty and energetic, and the hives have all the brood they can care for, and are very full of bees for this time of year, with some drone brood. They have a little of their own honey left in the hives yet, and are gathering a little honey and pollen from the box-elders, and perhaps from some other source. I would not feed molasses, especially soured molasses, before bees fly in the spring; but as soon as they do fly freely, after the middle of April I doubt whether any sweet that we can get them to take, that is not really poisonous, would hurt them. Of course, it should not be fed while the supers are on, so that any of it could be stored in the sections, nor so much fed to the bees that they store and seal it up in their combs, so that it would be left over for winter stores.

From present appearance there will be but very few weak colonies by swarming time. I think we have never had bees to winter better; no colonies that I yet know of have died or dwindled that had a good queen in the fall.

White clover has wintered well, and is coming up in abundance everywhere. If we get sufficient rain we may hope for a good crop; but a good crop

means low prices, and each one should try to develop his own home market as much as possible. Try to trade it for every thing you buy, also exchange it for labor done. Try to trade it to every merchant in town nearest by; as often some one merchant will sell more than all the rest.

We had a large lot of cut-out honey, much more last fall than we ever had before, which we cut out and put into pans, which has sold more readily than in boxes. One groceryman wanted a painful every few days. He did not want more than two pans at a time, as it looked mussy from standing. I think the reason it went faster than in sections was, it was kept standing open, where a crate of sections has a lid on. MRS. L. C. AXTELL.

Roseville, Ill., Apr. 24.

Mrs. A., I am very glad of your brief testimonial in favor of bee-stings. If it is really true that getting stung does good, instead of harm, it is a strong argument in favor of bee-keeping.—I have fed poor molasses in just the way you mention, and I am well satisfied that you can feed with safety any thing the bees will take or can, be induced to take, if it is done when they fly freely, and the weather is warm; and I am sure that great quantities of brood can in this way, be secured from very cheap feed, when it is desirable.—Your suggestion in regard to getting rid of the honey around home, instead of crowding the commission houses, is an excellent one.—I am very glad to know that you have succeeded as we have, in disposing of cut-out honey in pans.

NON-SWARMING QUEENS.

DOOLITTLE FEELS HOPEFUL IN REGARD TO THE MATTER.

On page 215 of the current volume of GLEANINGS I find an article from Mr. S. A. Shuck, in which he enters a protest against the teachings of Messrs. Alley, Doolittle, and others, who are giving advice to those who wish to increase their bees on the swarming plan, or by means which allow of increase being made without confining the bee-keeper to the apiary from 9 A. M. to 4 P. M. each day during the swarming season, he claiming that "the whole arrangement was unsatisfactory, and entirely too expensive." He then goes on to state that hundreds of bee-keepers don't want swarms, which I have not the least doubt is the case, yet it is equally certain that *hundreds* of bee-keepers *do* want swarms; and it was to these I was writing, and not to those who, like Mr. Shuck, *do not* want them. What Mr. Alley's object was in writing, I do not know; he can answer for himself. The point I wish to make right here is, that, in thinking of what should be written or what should not be written, we must take in the great multitude of bee-keepers as a whole, and not narrow ourselves down to just what *we* want, but go out in our thoughts, asking the question, "What will be the greatest good to the greatest number?" Failing to do this, we are not complying with the golden rule, nor using that broad charity for others which it is our privilege to use at all times, would we be making the world better for our having lived in it. I think that, in the past, I have given more matter on "how to prevent increase," and save to others the providing to themselves with those "hundreds of

dollars' worth of empty hives," than I have on the different modes of increase, for, on the whole, I am in favor of running an apiary on the plan of as little increase as possible; yet while I now so feel, I have not forgotten the time when I was so anxious for natural increase that I lay awake nights planning how it might be obtained.

Mr. Shuck next strikes some hard blows at queen-breeders for "diffusing the swarming mania" throughout the country. While I very much doubt there being any ground, only a mistaken one, for his wholesale slaughter of queen-breeders, yet this brings me to the main point I wish to make in this article; which is, Is it possible to breed out of our bees the disposition to swarm? I have always said that it is not, nor do I now believe it entirely possible; yet some things have come under my observation of late, that have modified my opinion to a considerable extent. I had thought not to say any thing in the matter till I knew more about it; but I have concluded that it will be better to speak of it now, so that others may try with me to see if perfection can not be reached sooner; for, "In a multitude of counselors there is safety." All who have read my book on queen-rearing will remember that, in 1884, I adopted a different plan of rearing queens than that usually adopted by those sending queens out for market. All who have had experience in the matter, also know that the best of queens are reared in case of two queens in a hive, or, in other words, where a young queen is reared and fertilized from the same hive which has an old and laying queen in it at the time when this young one is reared. This is a fact which none will dispute; but the point to be arrived at is, Are queens thus reared less likely to swarm than are those reared under the swarming impulse? The method I adopted for rearing queens in 1884 was nearly the same as that used by the bees where two laying queens are tolerated in a hive at the same time, as the queens are reared above a queen-excluding honey-board when the old queen is doing full duty below, the colony not having the least disposition to swarm while the queens are being reared; yet the most of my queens are reared during the last half of July and the month of August, at which time very few if any swarms issue with me.

With the year 1887 I began to notice that I was not having nearly as many swarms as usual; while during 1888, only about half of my old colonies showed any desire to swarm. During 1889, less than half of the old colonies swarmed, while only one showed a desire to cast an after-swarm, the queen-cells in all others being cut as soon as the first young queen hatched, without any attention to them on my part. All the older readers of GLEANINGS will remember how that, during the seventies, I had excessive swarming, one season having above 350 swarms from less than 70 colonies in the spring. Swarm they would in spite of all I could do, so that it was nothing unusual for me to have from five to ten swarms in the air at once, while in one case I had fourteen all clustered together in a hedge fence. As I go back to those days in memory, it certainly does seem that I have made progress along the non-swarming line, and it certainly does look as if the mode of rearing the queens may have had something to do with it. To be sure, the seasons of 1888-'9 were not good ones for honey, which may have had something to do with the matter; yet the season when the greatest

number of swarms issued was not a good one by any means, only about half a crop of honey being obtained. I shall look more closely into the matter the coming season, and I wish all who raise queens entirely above a queen-excluding honey-board would test the thing also, and so be helping to solve the problem, that a definite conclusion may be reached as speedily as possible. Why I say "entirely," as above, is, that some advise having the cells started by colonies having the swarming impulse, and, after they are started, place them above a queen-excluder for completion. Of course, this would not be entirely along the line we are working on, consequently would not be likely to be as perfect as to results.

I see on page 318 that the editor interprets that portion of my article in the May 1st No. of GLEANINGS, where I speak of policy, as applying or intended to apply to others. I had no such thoughts; and if it does look a little different, let the reader be assured that Doolittle was the only one it was meant for.

G. M. DOOLITTLE.

Borodino, N. Y.

Friend D., I am inclined to agree with you thus far. If we save our queens, and use them for breeders, that come from colonies that persistently swarm excessively, our chances are greatly in favor of getting a strain of bees given to much swarming; and, of course, the reverse would follow. But it seems to me it can hardly be possible that we shall see a perceptible difference in so short a time as you mention. If, however, you take pains to select queens from colonies that do not swarm, I think quite likely you would see a remedy to the evil of excessive swarming, even in three or four years. Almost every apiary furnishes more or less colonies that give good yields of honey year after year, without any swarming. Let us try getting our queens from such colonies.

think I can prove very conclusively by argument that there is a loss in raising bees at certain times; and yet, somehow, when the thing is put into actual practice the proof is not so clear. Indeed, to make a fuller confession, I believe if I had never tried to prevent swarming I should be better off to-day. Still, I am not ready to give up trying. But I am afraid that in spite of all my theories, the colonies wherein are left, all the time, laying queens, will persist in doing better work than those which are prevented from raising useless consumers. It may be, that I shall never get a satisfactory answer; but to me this question is a very interesting one: How can the desire to swarm be prevented without interfering with the queen's laying?

AMES' DOUBLE TOP BAR.

Comparing this with the single thick bar, it has the advantage of the space for winter passage, and it can be applied to frames already in use. For new frames it will have no advantage but the winter passage, and will have the disadvantage of being more difficult to make and to put together, and not so solidly square. I think there may be another advantage in the double bar; and that is, that a queen may be less likely to go up. Baldridge's double bar, on page 205, is much the same thing. But if the space in the double bar is filled up with brace-combs I suspect the queen will go above more readily than over a solid bar. And the bees will fill the space with brace-combs just as surely as when a honey-board is used, if all dimensions are the same. Baldridge's $\frac{1}{4}$ -inch space may make the difference, and Ames' $1\frac{1}{2}$ width may also be effective. If, by having the right-sized space, or the right width and spacing, the double bar is found better than the single one, could we not retain the advantages of both by making a solid top-bar, and then running a saw-kerf through the middle of the top-bar leaving a middle and the

USING ESCAPE TENTS.

WILL THE REESE BEE-ESCAPE TAKE THEIR PLACE

On page 201 Mrs. Axtell speaks of the bees being so slow in getting out of the little mosquito-bar tent that the sections were spotted. I am not troubled in that way, and I think she is right in blaming the young bees. I smoke the bees pretty well before taking off the super. This does not drive them out by any means, but I think the young bees are pretty prompt to go down when exposed to the smoke and the light. If the super is taken off without giving the bees any time to go down, they may be in it young bees which have never flown and such bees would be a long time about leaving the only home they know of. The Reese bee-escape, in some one of its forms, has the advantage that no bees need be driven out before applying the escape; and for home use I think it is ahead. For out-apiaries the little tents are ahead, for bees can be got out of the supers in less time.

CAGING QUEENS.

The article of Mr. Gill, on page 203, and the comments thereon, prompt me to advise against using the plan of caging on too large a scale, till you find whether it is the best thing in your case. I am obliged to confess that, with me, it has not as yet worked out as well in practice as in theory.

ramblings and new inventions, every little while we have to come back again to Langstroth. In regard to double top-bars. see editorial in our previous issue, page 389.

RAMBLE NO. 24.

IN MONTGOMERY CO., N. Y.

EARLY in December last, the Rambler dropped quietly off the West Shore train at Fort Plain, Montgomery Co., N. Y., and found that Sprout Brook, the home of the Van Deusens, of flat-bottom-foundation fame, was eight miles away. Mud was the chief staple on the surface of the earth then, and we hesitated to embark by stage, and travel so far inland. We were, however, in search of things new and novel; and though the roads were as bad as any we ever saw, we do not regret our trip.

Sprout Brook is a charming little village with a church, a store or two, and a hotel. Nearly a mile from the village lives Mr. J. Van Deusen and his sons J. A., O. J., and C. C. The homes of the Van Deusens and their factory are located in a flat-bottomed valley, and form a very picturesque little village as you look down upon it from the hill. A stream winds its way slowly along through this valley, and years ago the water-power here was utilized to run a woolen-factory. But since the advent of improved bee culture, the woolen machinery has been taken out and flat-bottom-foundation machinery put in. Like all country streams, the water fails during dry seasons, and an engine has been added to keep the wheels of business running at such times.

The Rambler's call was made at an unfortunate time, as the elder Van Deusen had just buried his father that day from home. C. C. was con-

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visitors, and especially against ramblers. The Van Deusens, of course, claim to make the best foundation in the world, and advocate the idea that any foundation that runs less than 12 square feet to the pound, and is not flat-bottomed, is not fit for comb honey. They also lay the broad claim that it is worked out quicker than any other foundation made. Their method of cleansing the wax makes it cleaner than any other manufacturers can possibly get it; but we shall have to take Bro. Van Deusen's word for it, for their process is a secret.

For a lubricant, lye, starch, soap, etc., were vigorously condemned, and pronounced detrimental to the production of a good article. Their lubricant is as pure as the breath of an angel, and is also just as secret. Theirs are the only rolls that can manufacture wired foundation. As to how it is done is also—a secret!

Foundation can be made faster than by any other process. No visitor, however, is allowed to see the process—it is a secret! The fact, however, that foundation could be made so very fast, gave the Rambler a great desire to compare the two systems of manufacture—the secret one of the Van Deusens and the free-to-all, broad-minded system of the Dadants, who make over 30 tons per year. So we ventured a question to that effect.

"Oh, yes!" says Bro. Van D., with his blandest smile; "that reminds me of a story Capt. Hetherington told me the other day. He had a pile of wood, and employed a laboring man to saw it, supposing he had enough to keep the man busy all day. About noon, the man, whom we will call Sam, came around and reported the pile sawed. Capt. H. could hardly believe Sam, and went to see for himself. 'Why,' said Sam, 'if you want me to work all day, get a pile of wood. I want no little pile like that!' 'Well, Sam, how big a pile shall I get you?' 'Oh!' said Sam, 'get a big pile—a great big one.' 'But, how big—how many cords? what do you call a great big pile?' 'Why, Capt. H., if you want to see me everlastingly work, just get an *all-fired* big pile.' Well, Mr. Rambler, that's just the size of the pile of flat-bottom foundation we manufacture."

Silence fell upon us for the space of a minute. We realized that we had hit another secret square on the head.

There was one point, however, upon which there was no secret. This was a desire to sell this secret flat-bottom foundation, either by the pound or by the ton. The Rambler was inclined, to make a bargain for a few hundred pounds, but just then the stage arrived, and we bade good-



GENESIS OF FLAT-BOTTOMED FOUNDATION.

to the senior Van D., and were again behind tired horses and on bad roads. The Rambler's dreams troubled him again, and the very genesis of flat-bottom foundation came up before him, and would not get down until the pencil made the vision perma-

nent. He hopes no secrets are divulged thereby, for to tell secrets or to burglarize is not the forte of the

RAMBLER.

Friend R., I am afraid that you trespass a little on the good nature of our Van Deusen friends. I am somewhat acquainted with the father; and, as you say, I have found him a most pleasant and genial man. Most of us have our peculiarities and eccentricities, and our Van Deusen friends are no exception. While I should not quite agree with them in regard to the importance of keeping their discoveries secret, I think we can respect their wishes in this matter, especially when they produce so nice an article of foundation, and at a reasonable price. With their machinery they can doubtless make a very great quantity in a year if called for; but perhaps they could not work at a much lower price and still keep up the quality. We have been selling more or less of their product for several years past. They not only send out a beautiful, uniform quality of wax, but they will make sheets two feet wide or more, and make it just as thin, or thinner, than we roll our narrowest strips. I have been told that their rolls are made of brass, and of large size, so as to allow of no springing in the center. Will our good friend Capt. Hetherington tell his man Sam that there is a good opening for just such a chap as he describes, in our own neighborhood?

A BEGINNER'S EXPERIENCE.

DOWN AT THE FEET OF THE LADDER; FALLEN PRIDE.

Dear Mr. Root:—I am down at the "feet" of the ladder again, in the bee-business. Last fall I got a handsome, little, select tested Italian queen of you, and she did nobly. I placed great store by her, and anticipated the busy brood which she would turn out this coming summer. I put three nice swarms away in the cellar, to winter; and when anybody said "bees," I would give him a cordial invitation to see mine by candlelight. Alas for human expectations! They tumble about one's ears daily, and we build only to see our fabrics fall in shapeless ruin, so often that one wonders at the fallibility of all earthly things, and grows skeptical in contemplating the utter depravity of inanimate objects.

In February, contrary to all precedent and the laws in such cases made and provided, we had a warm spell right up here in the Rockies, where it is always supposed that winter lasts 9 months, and the other three are late in the fall. A huge snow-drift had made it necessary to sink a shaft to find the cellar-door, to fish out potatoes, and, incidentally, "to see how the bees were doing." The warm spell cleared the ground of snow, all except the deep drifts, and my cellar got too warm. The moisture settled in huge drops, all over the combs, and every thing molded; and one day, when I had managed to get that refractory cellar-door open, I found, to my amazement, two of the swarms entirely dead. I hoisted the other one out, and set it in a sheltered nook, and sat down to contemplate the spectacle of about half a bushel of dead bees, and my lovely little queen, beyond the reach of mortal aid. Too much care, too much solicitude to

have them warm and comfortable like some pet horse or cow, had done the work. Better have left them out to endure the rigors of a Rocky Mountain winter than this cosseting and consequent death. It taught me a whole lot—those brief moments of sad contemplation, and I said, "Whatever I do in future, I intend to see that you don't get too warm."

I am now just where I started last spring—about a quart of bees, and a queen to come from the Home of the Honey-bees, to build up my ruined fortunes. But, in the language of Mrs. Collins, of Chapman, Neb., "I am going to succeed, if I have sense enough." We look for a wet season, and, consequently, plenty of grass, and flowers in profusion. It would do your soul good to see this country during a wet season. The ground is carpeted with flowers, and grass, so green and inviting, against the background of sage brush. Commend me to "Jotham's wife." I like her sentiments. Man should not be measured but by his worth to his fellow-man, and I respect and esteem the man who grooms horses, or the girl who waits or bakes or scrubs far more, often, than I do the people for whom she labors. The bane of this world is selfishness. I used to pride myself on the uprightness of my character and conduct, and point to my career as *so much* better than my neighbors'. Something wrought a change—I won't say what—and I began a microscopic examination of self. I found out that my idol (myself) had feet of clay, and I took a hammer (metaphorically), and smashed it to smithereens. I found myself to be one of the most capacious, selfish mortals living. I found that I exacted from my family the best seat, the choicest morsels, and the best of every thing, all of which I took with the utmost self-complacency without a thought or a care for other people's comfort, where mine was concerned. I did not realize all this in a minute nor a day; but when I *did* come to see myself in a proper light, there was any thing but pleasure in contemplating the spectacle. "What am I, that I should demand or accept these things of my family, or any one else?" thought I, in the bitterness of fallen pride, over a cherished character, so much better than my neighbors'. I saw plainly, that, in nine out of ten instances, I wasn't really half as good as men whom I had looked upon with contempt. At *this* time I do not allow my wife or any of my children to vacate a seat or surrender a paper to me until they have no further use for either. I do not think that I am doing right, if I let any one inconvenience himself in the least for my sake; but, on the other hand, I am trying to learn to render, without recompense, all the service to humanity that lies in my power. I haven't reached a point yet when I am fit to have a pair of wings grafted on, but I am not the selfish, exacting, disagreeable brute that I used to be. If a man will just turn the telescope upon himself, instead of upon his neighbors and the world generally, he will find it a mighty interesting—if, perhaps, unpleasant—study for a while, and then he will feel a good deal like going out and hiring a six-footer to kick him for about six consecutive hours.

J. F. CRAWFORD.

Saratoga, Wyoming, Apr. 22.

I am sure, friend C., we all sympathize with you deeply in the loss of your last colony, away up in the Rockies. Don't you think you had better follow our plan of wintering bees right in the open air?—I felt

deeply interested in your account of your fighting the battle in putting down self; but I confess that I felt somewhat disappointed that you did not make some allusion to Him who lived a human life, and "pleased not himself." How can you help thinking of those words, "Whoso will be chief among you, let him be your servant"?"

FROM THE LAND OF THE PHARAOHS.

FRIEND BALDENSPERGER INFRINGES UPON MERRYBANKS' WOODEN-PAIL BEE-HIVE.

THE "haj" Mustapha, as the title "haj" is called, was a devout man, and had performed his pilgrimage to Mecca, on return from which the pilgrim (that is the literal translation of the word) receives the name of "pilgrim," or "haj," and is then expected to perform his five prayers daily. An omitted prayer may be recalled by saying two prayers next day at the time missed. The five prayers are to be said at daybreak, midday, four o'clock, sunset, and about 9 P. M., always facing Mecca while saying the prayers. My host declined saying his prayers that day; as he thought it would keep me too long, he would do it next day.

He then went on describing the way he makes his hives. I should certainly note down every thing, as this is a very important question in apiculture. The wooden model is five spans long (46 inches), being 8 inches in diameter. The mud is brought, mixed with one-third of fresh horse manure. After being well worked it is left to leaven for a few days. A very pliable but strong mat made of spliced reed is put down on the floor, on which dry and finely pounded manure is strewn. The above-named composition is now fully besmeared on this stout reed mat, and again dry manure is strewn on. The round model is now laid down on the composition, and by means of the mat, or outer inclosure, the mud is put round the model, and put upright, when the inner model is taken out. With an empty jug having just the same diameter as the inside of the hive, he rubs the inside up and down till it is smooth. The mat is now carefully taken away, and the finished but delicate hive is put away to dry in the sun. When wanted for bees, two round covers, always in readiness, are taken; and after having put in the five above-named combs, the swarm is put in, and is pretty sure to thrive, as swarms are admitted only in the flowery season. The hives are now laid side by side; and before a second layer is put on, the hollow space formed by the two hives is filled with sand and fine manure. When the second layer of hives is put on, the holes formed below the hives are stuffed with hemp, and all the surface is besmeared, making it mouse and moth proof.

In cutting out the honey he is very careful not to cut into the comb lest the hive get soiled inside; besides, the refuse pieces must, together with the honey, raise the wax-moth. He always leaves five combs in each hive, thus enabling the bees to store away, besides what is left, food for the flowerless season; for of a winter, hardly a mention can be made. He operates on his hundreds of hives without using any protection for his hands. He does not know that people in Europe and America dread the very name of Egyptian bees, neither does he know that any have been tried in those countries, and probably does not know that there is any dif-

ference in temperament or in color. In the middle of August, at the overflowing of the Nile, the hornets appear, in very small numbers; but by and by they increase to thousands. He boils 2 lbs. of honey and 1 lb. of arsenic; and when well mixed he takes a number of feathers, besmeared with this mixture, and sticks them in the hornets' nests. He does the same thing round about all the villages where he has any business transaction, putting also some in plates in front of the apiaries, thus killing numbers.

By this time dinner was ready. My host and myself were seated on an elevated place in the court. It being a cloudy day we were in the open air. On a copper tray were presented, on different dishes—eggs, olives, dates, and omelet bread. We used our hands, as is the custom, while a man kept driving away the flies from ourselves and food. Before eating we had to say, "In the name of God the merciful;" after food, "Thanks to God." After having thanked my bee-friend in the most courteous manner, I rode home toward Cairo on donkey-back, as I came here, very glad to have seen Egypt still flourishing. PH. J. BALDENSPERGER.

Jaffa, Syria, April 3.

Why, friend B., I just held my breath when you spoke about those cylindrical hives made of clay; and I confess I felt greatly disappointed because you did not tell us more particularly how he cuts those round combs out of the cylinders, and how he puts them back again, or doesn't he ever put them back? and is the surplus honey stored in round cakes so it can be cut into pieces like pie, as pictured in our little book. Merrybanks and his Neighbor? I have always felt a little hurt to think my brilliant idea of using water-pails for bee-hives has met with so little favor, not only in our own country, but even in foreign lands. Now, if I ever go to Egypt I shall greatly enjoy their custom of asking a blessing before they partake of food, and giving thanks afterward.

AMONG THE MANGROVE ISLANDS.

EXPERIENCE IN MOVING BEES ON THE WATER.

Two or three years ago my friend O. O. Poppleton suggested to me the idea of moving our bees to the coast, twenty-five miles from home, to get the benefit of the mangrove honey which comes after the honey season is over in the interior. With many doubts in regard to the prospective profits of the venture, we finally decided to make the trial during the past season. In the first place we had to build new hives, as the old ones were not safe to move bees in. The common pine lumber of Florida is very heavy, so we went to the extra expense of getting cypress lumber, which makes very light hives—quite an important consideration where they are moved so far. The mangrove generally blossoms from the last half of June to the fore part of August. But the season last summer was late, so that we did not move the bees till about the first of July, and that proved to be early. When we finished extracting the last of May, we left a pretty good supply of honey. This being palmetto honey it was of very good quality; and when we were ready to move the bees we took about 600 lbs. from 35 colonies, the number moved. Two frames of

honey were left in each hive. The frames were fastened at top and bottom, and what we thought would be ample screens for air were given them; honey-boards were screwed down to prevent bees from getting out, and just at night entrances were closed with wire screen. Then my son, Oscar B. (aged 19), commenced hauling them to the depot, where we had engaged a car. He worked till an hour after midnight, hauling a part about two miles, and the rest from the home apiary, nearly $\frac{3}{4}$ of a mile. In the morning two more loads had to be hauled; but we had all ready for the train, which took us safely to Smyrna by 11 A. M. We had engaged a flat-boat, or lighter, as it is called here, of friend J. Y. Detwiler, to take the bees about three miles south to the locality where we had decided to keep them. There is a strong tide in the Hillsboro River, and we had to wait till about 6 o'clock before we could have the tide with us. Then Oscar fastened our own light row-boat to the bow of the lighter, and we started, Oscar rowing as hard as he could in order to make as much speed as possible; yet darkness overtook us some time before we reached our landing. When within 80 rods of our destination the lighter ran into some oyster-bars in the darkness, and we left it while we spent half an hour in hunting for the wharf where we were to land. Then another half-hour was spent in working the lighter among a net-work of oyster-beds; and when we reached our wharf we were two tired and somewhat disgusted individuals. There was no profane language used, I believe, as neither of us had ever had any practice in that line; but I fear that we felt in a frame of mind such as some of our friends do when they use pretty strong language. Not a light was to be seen.

A NIGHT WITH MOSQUITOES AND SAND-FLIES.

Our friends had retired for the night. The path to the house was through a hummock little known to us, and it was about 60 rods to the house. Oscar said he could do no more, and, rather than try to find the road and then awaken our friends, he lay down on the wharf and slept till morning. After looking to the bees, and bailing out the lighter, I followed suit by making up a bed on top of some bee-hives. Fortunately the night was clear. We had plenty of bedding, a tent, etc., and were prepared for camping out; but the mosquitoes and sand-flies were on hand and ready for business, thousands of them. We had bee-veils over our faces, and our hands covered. We finally had to cover our faces with our blankets, all we could, and leave room to breathe. It was nearly midnight before I slept. By sunrise we had eaten our breakfast, and spent the entire day in getting the bees to land.

PURE ITALIANS BETTER FOR MOVING.

We found them all right except one colony evidently smothered, and a few bees dead in a few hives. I noticed that the pure Italians lost less than the dark hybrids. We afterward moved one colony of Italians over 25 miles in a wagon, and they made very little disturbance. The dark bees seem to get more excited, and crowd for the entrance and ventilating screen, thus shutting off the supply of air.

A POOR YIELD FROM MANGROVE.

The mangrove did not yield much honey before the 10th of July, and then the flow was not constant. It seemed to do better after a good shower of rain, while a few days of hot dry weather would be a sure indication of idleness in the apiary. We

secured only about 600 lbs. of honey, and the last of that was undoubtedly mixed with cabbage-palmetto honey, which is also a very light-colored honey, and of fine flavor. Every bee-keeper with whom I talked upon the subject said it was one of the poorest seasons for honey ever known. Some thought that the yield is always light when the mangrove-blossoms are so late in the season. In counting the profits of our experiment, the 600 lbs. of palmetto honey taken before moving would have to be added to the 600 of mangrove, as we could not have extracted the palmetto honey had the bees been left at home; 1200 lbs. at 7 cents, what we have been getting for most of our honey in our home market, would give \$84.00. Less cash expense of moving, \$24.00, would leave about \$60 for our labor—not very high wages, certainly. Large quantities of honey could not be disposed of at 7 cents per pound. One bee-keeper shipped several barrels to the North, and realized only 4 cts. Another sold 8 or 10 barrels at home for 5 cents. We left the bees at the coast till December. The last time we extracted, which was during the first half of August, we left plenty of honey in the hives. Some honey was to be had from various flowers, but not enough for the needs of daily consumption; and by the last of October there was very little left. It looked as though the bees would have to be fed or starve. Oscar and I went over to look after them about the first of November, and found them storing

HONEY FROM SAW-PALMETTO BERRIES.

This product is more like a poor quality of syrup than honey; but the bees seemed to thrive on it. We concluded to let them work away while we took a two weeks' trip 50 or 60 miles north on the Halifax River, and Smith's Bulow, and Tamaka Creeks, camping out and adding to our collections in botany and conchology. On our return we found the bees still storing from the palmetto-berries, so we left them a few weeks longer. When we moved them home in December the hives were quite heavy with honey. I am satisfied that, had it not been for the palmetto-berries, we should either have been obliged to feed the bees for a long time, or let them starve. The palmetto is said not to yield a crop of berries every year.

WOOD-ANTS.

We lost two colonies from robbing, and two from attacks of the large wood-ant that is sometimes so destructive to bees near the coast. Had we been with the bees we could have saved those four colonies. The ants can be destroyed by following them to their hiding-places. Those that did the mischief for us first made their nests in the top of the hives; and when they got pretty strong they commenced killing, and, I think, eating the bees. I saved one colony they had commenced on. In one corner of the hive there was about a pint of dead bees with wings torn off, and the bees torn to pieces. The rest of the bees were on the combs all right, and I was satisfied that the ants were eating a few every day. I brushed the ants out of the hive, and a flock of chickens snapped them up as fast as they struck the ground. They made no more trouble in that hive. The hives were set on large spikes, and the spikes in cans of water; but the cans got empty, and the ants found their way into the hives. They work only at night, remaining hid during the day.

On the whole it is hard telling whether our experiment paid us in any way except in the experience gained or not. I have no doubt that, in a good

season, we should have felt well paid for our trouble.

MOVING BEES FROM THE NORTH TO FLORIDA NOT RECOMMENDED.

Some parties have talked of moving bees from the North to Florida, to get our winter flow of honey, and especially orange honey. I do not know whether any one has done so or not; but I will venture the opinion that they will do it but once.

PRESENT OUTLOOK FOR FLORIDA NOT ENCOURAGING.

The present honey season in Florida is likely to be a very disastrous one. The winter was very warm and dry, and we got no honey. The 1st day of March we had a good rain, followed the next night by the first frost of the season. In two weeks came another frost that did great damage throughout the entire South. Thousands of acres of tomatoes and other tender plants just ready for market were cut to the ground. In many places young orange-trees were killed to the ground, and orange and many other honey-yielding blossoms were destroyed, leaving nothing for the bees. The winter had been so warm that most things had started to grow. The consequence will be, that our Northern friends will not have so many oranges from Florida the coming season. In the interior, bees will probably have to be fed during the whole season or else starve. Saw-palmetto generally blossoms about May, but it throws out its long panicles of buds long before that time, and most of them were killed where they were not protected by the leaves. We have been feeding our bees up to the present time. I have not learned what the prospect is for mangrove honey.

GEO. W. WEBSTER.

Florida, May 10.

DR. C. C. MILLER.

BY THE HALF-TONE PROCESS.

A short time ago we received information that Mrs. Miller did not like the wood engraving of her husband, Dr. C. C. Miller, in the *A B C of Bee Culture*. The cut was very good, but it was not exactly natural around the eyes and mouth. We accordingly have had another one made by the half-tone process; hence I take pleasure in again introducing our old friend and correspondent, Dr. C. C. Miller, of Marengo, Ill.

It is almost unnecessary to tell who the doctor is, or what claims he has on the hearts of bee-keepers. We can say of him as we can say of very few bee-keepers, he has no enemies. In fact, it would be a very hard matter to quarrel with him or make him talk back. He sometimes, like Dr. Mason, has a blunt way of talking in conventions, for the sake of a joke.

There are several men who always help materially in making a good convention. Not mentioning the others, I will say Dr. Miller is one of them. I remember, at the International, at Brantford, everybody inquired, "Where is Dr. Miller?" or, "We need him."

We hold Dr. Miller, here at the Home of the Honey-bees, in very high esteem, not only as a personal friend, but for his opinions upon any phase of the subject of bee culture. He has twice revised the *A B C* book, and twice added his comments in the

back portion of the work. In fact, he is consulted in regard to this, that, or the other improvement in hives and other appurtenances. Very often, when a new thing comes up that I think is going to displace every thing else, I write to Dr. Miller, and ask him to find all the fault he can with it.



DR. C. C. MILLER.

And his criticism is generally heeded. Our correspondence in *GLEANINGS* shows that we do not always agree; but the fact that he is so often consulted is somewhat of a measure of the value we place upon what he says.

If some of our new subscribers want to know when and where he was born, whether he is short or tall, broad or slim, I would refer them to a short biographical sketch by the writer, in the *A B C of Bee Culture*.

ERNEST.

CALIFORNIA.

BACKWARD SPRING.

Bees have wintered well in this part of the country. No losses, except where they starve, and not many of them so far. The spring has been very unfavorable up to date. There have been but few days that bees gathered any honey. Rain, rain, rain, is the order of the day. Our spring was like yours last year. There were only two days when bees could work on apple-blossoms. In my apiary they are destroying the drone larvae, and expelling the mature drones. The queens have slackened laying, yet I am feeding whenever bees can fly.

I fear that I shall not get bees enough to get much surplus, if this weather continues much longer. I am feeding sorghum, diluted to thin syrup, placing it about two rods from the hive. There is no fighting or robbing among the bees.

S. L. CRAIG.

Oakland, Cal., May 14, 1890.

MANUM AND THE COMMISSION MEN.

HOW HE MANAGED TO SELL \$4000 WORTH OF HONEY BEFORE BREAKFAST.

I HAVE seen articles in GLEANINGS from time to time on marketing honey. Several of your readers have given their experience and advice on this important subject, and it may not be out of place that I should give my experience with commission men. I have never been fully satisfied with the practice of sending my honey to be sold on commission. Though I have never, but once, been able to sell it outright, I have tried very hard to induce parties to get in the habit of buying honey as they do other farm produce. But they seem to be a little loth to do so, as they say honey is a luxury and not a staple article.

A few years ago I shipped my honey to a firm in Boston, known as Favor & Dudley, who then handled nearly all of our Vermont honey. While in Boston one day, looking after the sale of my honey, I chanced to pass a store, in front of which I saw several cases of my honey piled up to attract attention. I looked up to the sign over the door, which read, B. F. Southwick & Co.; and as I was looking at the honey, a fine-looking gentleman stepped out and smilingly saluted me with, "Good-morning, sir." This proved to be Mr. Robinson, one of the firm, who asked:

"Do you wish to buy honey, sir?" said he.

"No, sir; I was simply admiring it. Do you handle very much honey, Mr. R.?"

"Yes; we sold 50 cases of this brand last year, and this year we have so far bought 50 more, and hope to be able to sell 100 this season."

"Do you consider this brand as good as any?"

"Yes, we prefer it to any on the market. As it is put up in such nice, clean, and attractive packages, we sell it as a *fancy* article."

Here he opened a case, took out a section, and, holding it up, salesman fashion, he remarked:

"There, see how nice and clear it looks. Why, I tell you this is *fancy*, and it sells like hot cakes."

"You buy this honey outright, I suppose, Mr. R.?"

"Yes, we buy it of commission men; but we should be glad to handle all of this brand if we could arrange to do so."

"I see this is Vermont honey."

"Yes, it is; and, like Vermont butter, it stands at the head."

At this point I handed him my card.

"What! is this Mr. Manum? Are you the man that produced this honey?"

"Yes, sir, I suppose I am."

"Well, you are the very man we want to see. Please step into the office. Mr. Southwick, this is Mr. Manum, who produces such nice honey."

"Well, Mr. M., I am glad to meet you. We were speaking of you this morning, and wishing we might see you. Have you any more honey to sell? We should prefer to buy of the producer direct."

"Yes, sir, I have about 200 cases more."

"Oh! that is more than we wish to buy at one time; but we will take it on commission, and do the best we can for you."

"Well, gentlemen, I am here for the purpose of selling my honey. I do not like the commission business. I am sick of it, and surely I ought to be able to find some one in this great city who will buy so little as 200 cases."

"Mr. M., you had better consign it to us, and try us. We will do our best to please you. We are commission merchants, but we have never had a consignment of honey, though we should like to have you try us."

"Very well; then I will ship you what I have, on my return home."

This I did, and I was satisfied with the returns. I shipped them my entire crop the next year, though it was a light one—only four tons; but this seems to have set them up in the honey business, so that today B. F. Southwick & Co. are the leading honey merchants in Boston.

The following year I shipped them four tons early; and before I got the rest of my crop ready to ship, the old notion—of selling outright rather than placing it on commission—returned; and, being so strongly impressed that this was the true way for bee-keepers to do, I went to Boston with the determination to sell, if possible, to some party, and try to get them in the habit of buying rather than to take it on commission. So I called on my friends, B. F. S. & Co., for that purpose, but they talked very discouragingly. So I called on several other merchants, and in two days I succeeded in finding four parties who would buy six tons at a certain price—which was less than my price—but closed no trade with either of them. I returned to B. F. S. & Co., and made another desperate effort to sell them the remainder of my crop, which was now reduced to about 11 tons. I told them how I had found four men who would take six tons.

"What! do you propose to sell a portion of your honey, and then consign to us what you can't sell?"

"That is just it, Mr. Robinson. I shall either consign the rest to you or to some one else. But I want to sell you the entire lot; and now I will make you a proposition: That you come to Vermont with me and see the honey; and if you do not buy it I will pay your fare back, so that you will be out only \$6.50. But if you buy the honey you shall pay your own expenses up and back. Your expenses while there will be nothing, if you can put up with such fare as my wife can offer you. You see, I am determined to induce you Boston fellows to buy our Vermont honey outright."

"Well, Mr. M., your offer is a fair one; but it is too large a lot for us to buy at once."

"Very well; then I will return home on the next train, and I will decide in a few days what to do with my honey."

An hour later, as I had just taken a seat in the car, and as the train was just moving out of the depot, I felt a heavy hand on my shoulder. Looking up, there stood Mr. R., so much out of breath that he could hardly speak; but he managed to say:

"Mr. M., I am going home with you to see that honey. After you left our store, Mr. S. and myself talked the matter over, and we decided that I should go up and see the honey, if I could catch the train, which you see I have just barely done. As I was never in Vermont, I thought it a good time to take a look at your Green Mountains."

As we came via the C. V. R. R., we had a long ride through New Hampshire; and when White River Junction was reached I told Mr. Robinson that we were in Vermont; and I wish, Mr. Root, that I had the ability to describe Mr. R.'s enthusiasm as we glided along up White River, with the Green Mountains on either hand looming up skyward, with a seeming desire to steal a kiss from the

flying clouds as they journeyed onward, paying their respects to the old mountains only by occasionally saluting them with a light shadow as they skipped over the bald heads of these gigantic and aged mountains. Suffice it to say, Mr. R. was wild with delight and admiration as we skipped along from bridge to bridge and curve to curve until we reached Bristol in the evening; and while Mrs. M. was preparing supper, Mr. R. inquired whether the honey was near the house, so he could see it that night. Although Mr. R. had been under excitement all day, and must have been very tired, his great energy and business habits would not permit him to retire without first taking a look at the honey. So, after satisfying our appetites I conducted him to the honey-room, at the rear of the house.

Although Mr. R. is a very shrewd and thorough business man, I very soon made up my mind that he would buy my honey before he left. The next morning he was up and in the honey-room by daylight. After doing a few chores—more to allow him to be by himself than for the chores themselves—I joined him just as the bell rang for breakfast.

"Good-morning, Mr. R. I see you are making some figures. Does it figure to suit you?"

"Well, yes; but can't you make your price half a cent less?"

"No, Mr. R., I have already given you half a cent on a pound, in order to induce you to buy the honey. You will see that, by giving you the half-cent which I have, and if there are 11 tons, you are getting \$110 for your trouble in coming up here. But, our breakfast is ready; let us go in."

"How soon can you ship the honey?"

"I think we can get it ready in a week."

"Very well; then I will take it at your price, and send you a check for the amount on receipt of the honey. Well, Mrs. M., I have made a \$4000 trade with your husband this morning, before breakfast."

"Have you bought the honey?"

"I have; and Mr. M. says I must stay a few days and help him to grade it."

"We shall be pleased to have you; and I dare say you will enjoy the business, while your advice may be beneficial to my husband in the matter of putting up honey in the most practical style to suit your market."

Breakfast over, we returned to the honey-room, where the help had arrived, and we commenced work; and after watching the various manipulations of the honey as it was being prepared for shipment, from the scraping of the sections to the crating and weighing, Mr. R. looked up to me with a smile, and said:

"Mr. Manum, I want to work a little at each part of this work, for the purpose of knowing how it is done."

"Very well; you may commence by scraping one clamp of sections, and you may occupy this girl's place while doing so. In the mean time I will find something else for her to do. But, first, she may teach you how to clean one section while I go and catch a few queens to fill an order received last night."

I had caught but one queen when I heard a great uproar and laughter in the honey-room. I will here state that Mr. R. has a very agreeable, lively, and cheerful nature, and he enjoys a good time as well as the next one, and especially a good joke, whether he is the victim or not. Upon hearing the

uproar I hastened to the honey-house to learn its cause and to enjoy the sport myself. As I entered the room I found all the girls standing, and in a fit of laughter, as well as those from the other rooms. All were looking at Mr. R., who, it seems, had punched a hole in a section of honey with his finger; and while holding it up to decide what to do with the "leaky thing," as he termed it, he dropped it on the floor, and of course smashed it; and it was his looks of despair at his ill luck which caused the girls to laugh so heartily. He finished his clamp of sections, however, in a creditable manner, and disappeared for a time. Where he could have gone, no one knew; but he soon reappeared with a large package of choice candy, which he placed at the disposal of the girls, saying, at the same time, that the best way to close a girl's mouth was to sweeten it. This he did very effectually, for the girls did not again mention to him the broken section of honey, and he was at once considered the hero of the company.

Mr. Robinson progressed finely in the different branches of the work, until he was at last promoted to the delicate work of grading; and I found him perfectly at home in this work. His experience in selling honey had taught him how this should be done; and instead of being his tutor, I found myself his interested pupil, greatly to my advantage ever since.

After watching Mr. R. a few moments I asked him if he thought it was best to grade the No. 1 as close as he was doing. His answer was, "Yes, most assuredly;" and he remarked:

"Now, Mr. M., I want to impress upon your mind the importance of careful grading. For instance, you should always be careful to have every section in each grade be true to that grade. Never allow a single section of No. 2 to go in with No. 1, or No. 3 with No. 2, and so on; because if a single section of No. 2 is found in a crate marked No. 1, the whole crate will have to be sold as No. 2, notwithstanding it contains but one section of No. 2. This rule holds good with fruits, vegetables, and all kinds of goods. All should be true to name and grade. Honest goods will always sell and command the highest price. Therefore work for a reputation; and when once gained, strive to keep it, because a lost reputation is much harder to regain than to have kept it. Therefore be watchful, and send us honest goods, and I will guarantee that you will always be pleased with the result."

After spending two days with us, Mr. R. left for his home; and on taking his departure he declared that he had enjoyed himself exceedingly well; saying that he could now tell his customers all about the honey-business, as he had been where it was produced, and worked at the business with his own hands, and that he knew that it was strictly pure.

On taking his leave of the family, Mrs. M. presented him with a well-filled lunch-basket, saying to him that the contents of the basket might be acceptable to him before he reached home. This little gift, representing her motherly nature, made such an impression upon his mind that even to this day it seems to be one of the pleasantest remembrances of his first visit to Vermont; and to assure us of that fact, he has, every year since, forwarded us a well-filled box of choice goods from their large assortment, as a token of his appreciation of that lunch-basket, and his regards for the giver who has since gone to her long home.

Notwithstanding B. F. Southwick & Co. did well with the honey I sold them that year, I have never been able to sell them any since, owing to the fact that, since then, the price has been so fluctuating, and also that the bee-keepers of New England seem to prefer to consign their honey, or, at least, they do so without making any attempt to sell outright, and I have found it rather up-hill business to establish the custom above; hence I have been obliged to consign my honey each year since the year above referred to. Although Messrs. B. F. S. & Co. have, so far as I know, been square and honorable with me, and make quick returns, I should much prefer to sell my honey at home, and have it done with.

Bristol, Vt.

A. E. MANUM.

Well done, old friend. Why, you will get able to write a book if you keep on at this rate. Now, there is one great moral in your very interesting story. It is this: There is nothing that helps a man to sell goods like being very conversant with the details of the commodity he is handling. And the emphatic injunction in regard to honest grading is a great truth. A reputation is much easier lost than gained, and much harder to be gained when lost than to have kept it.

RIPENING OF EXTRACTED HONEY.

ARTIFICIALLY RIPENED JUST AS GOOD AS THE HONEY RIPENED IN THE HIVE.

MR. HOLTERMANN, on page 87, says that the color of honey is probably affected by being stored in dark combs. Further on he tells us he leaves his honey intended for exhibition on the hive until a few days before such exhibition, and then extracts it. In this way, he says, he secures the ripest honey, and that "no one will admit that honey some time off the hive and out of the comb is of any better flavor than that just taken off; and further, that such honey is not affected as to color, if stored in white combs.

There are several mistakes in the above, I think. At least *one* man does admit and argue that honey may be improved off the hive, and, indeed, should be. I would call Mr. Holtermann's attention to my former article on page 48, Jan. 15. In addition I will add a few thoughts.

In his foot-note, the editor corroborates what I have quoted. He says that well-ripened honey is less liable to candy than that which is extracted before it is sealed. That the most thoroughly ripened honey is the last to candy, other things being equal, I agree. But to the idea that it must be extracted before it is ripened, I say emphatically, no. Last summer I extracted my first honey near the close of the wet spell we had in June. During that period, honey came in about as thin and rank as I ever tasted it. Nearly half of this honey was unsealed. I put it in lard-cans and stone jars, covered with cloth, and set them where the sun would pour in through the south window upon them, and left the honey to *cook*. In the fall this was among the thickest, richest honey I had, and the last to candy. And why should it not be so? If honey ripens by staying on the hive, what is it that does the work? What is the process of ripening honey, any way? Does it not consist in evaporating the water and intensifying the body of the honey? Is it not this concentration of the essential elements of honey

that constitutes its richness? And if so in either case, are not the conditions essential to this ripening process as well secured in a warm dry honey-house as in the hive? I claim from experience that they are present to even a greater degree. I see no way out of this conclusion unless it be in the vague, improbable guess that some chemical change takes place in the hive. I do not say that honey will not ripen in the hive, but I do say that the essential conditions—heat and dryness—must be present. In other words, the hive must stand in the sun, and be as near proof against outside dampness as possible. Honey remaining on hives densely shaded keeps thin, and acquires that moldy flavor spoken of by the editor on page 49.

THE COLORING OF HONEY.

Now a word as to the coloring of honey. That honey standing long in old black combs will become dark, is no doubt true. But it will do the same thing in new combs. I have put two sections of honey in a dish, one of which was beautifully white, the other considerably travel-stained from remaining on the hive. When they were cut into, the honey in the travel-stained comb was perceptibly darker than that in the others. This, coupled with the fact that honey extracted from old combs, pretty soon after it is stored, is as light as any, seems to prove that honey will turn dark by standing in the hive, whether stored in black or white combs. Now, what is the cause of this? Can it be some mysterious chemical process that goes on there? Who can throw some light on the matter?

GEORGE F. ROBBINS.

Mechanicsburg, Ill., Feb. 3.

Friend R., how large are those stone jars? I can readily imagine that, if they held not to exceed a gallon apiece, and if set in a south window, without curtains, during the hot days of July and August, the honey would evaporate or ripen until it acquired any desired thickness. And is not this a hint as to the cheapest way we can ripen raw honey? Well-ripened honey is certainly a little darker than green raw honey. I have seen basswood honey almost as clear as spring water, and so thin that you could almost drink it like spring water. When thoroughly ripened, however, it was quite dark, comparatively.

PEDDLING HONEY.

EXTRACTED; PREVENTING GRANULATION A FAILURE.

MR. J. A. BUCHANAN'S article in GLEANINGS, March 1, has called forth a few thoughts in my mind which may be of interest to the producers and sellers of honey, or, more particularly, extracted honey. If we prevent honey from candying by sealing hot, or by mixing, what shall we say to those who have been taught that pure honey granulates, and impure honey does not? and when a visitor comes to your apiary, and sees your operations, how will you prevent his being confirmed in the idea now prevalent, that all honey is bogus? Preventing granulation by sealing hot has not worked satisfactorily with me. Some one wishes to see how the honey tastes. The sealing is not done perfectly, and then your honey granulates. Consumer, who thinks it should be clear, observes with a smile, "He got too much sugar in it that

time." The one who has kept "strained honey" in the house all winter, and knows it is natural for honey to granulate in cold weather, and those we have succeeded in educating, think that you have adulterated it. It will not do, generally, to rely on the groceryman to explain to the customer. Generally he is not asked to; and in time the story gets old, and he can not spare the time on an article that sells as slowly as honey does. As Mr. B. says, we bee-keepers must solve the problem ourselves. If I had an unlimited amount of time I could sell extracted honey for 10 cts. where comb honey sells at 12; and it need not be in liquid form either. Thinking that I must change from producing extracted to comb honey two years ago, I purchased some comb honey to peddle with my extracted granulated honey, and found, to my entire satisfaction, that the trouble in selling extracted honey at the price named was less than selling comb honey. I sold 5 lbs. of the former to one of the latter. When comb and extracted honey are placed in a store, generally the result is the reverse of the above. The groceryman gets tired of talk, and sells what is "called for." Now, how shall we solve the problem of selling extracted honey? for with me in this market it must be solved or given up. The groceryman does not succeed in disposing of any worth mentioning, in the granulated form, and the task of melting and sealing hot in small glasses, and remelting what granulates again, and keeping the groceryman supplied with it in attractive form, is too great a task where you have a large crop to market and take it to grocerymen in other towns.

Waverly, Ia., Mar. 11.

J. B. COLTON.

Friend C., the honey business is full of contradictions, like almost every thing else. I know it does take a deal of talking. The best way to get rid of the talking, however, is to give your customers a real nice article; and when they call for more, give them a real nice article again.

THE HONEY MARKET OF BUFFALO.

HOW THE DEALERS THERE CALLED THE LIQUID ARTICLE "STRAINED," MANUFACTURED (?) COMB HONEY.

DURING March I was, owing to my mother's illness, suddenly called to Buffalo, N. Y., and remained there about two weeks. I took a room, and prepared my own breakfast and supper. You know a German is saving, and can live where other people starve. There is one thing I always feel breakfast is incomplete without, and that is honey. The entire year, when able, I like either extracted or comb honey for breakfast. So I ventured out, and at the grocers' made inquiries about extracted honey. The clerk or proprietor asked, "Do you mean strained honey?" and told me they had none. The remark led me to think whether it could be that, in the same country, and in so large a city as Buffalo, and within so short a distance of that great apicultural light, Dr. Mason, people did not know extracted from strained honey. I then and there determined to sift the matter thoroughly. I visited about fifteen stores, and in every case found they called it strained. I would say, "Have you comb honey?" and then would ask for "the other" kind, and in one way or another I led them to name the honey first, and the name given was always strained. In

the largest grocery store (so far as I know) in Buffalo, in Yerxi's, they called it strained; and when the young man in attendance found out I kept bees, and knew honey, he asked me if the comb honey in their store was really genuine. I then read him your offer about the manufacture of comb honey, and the efforts of the American bee-journals to stamp out the erroneous idea that comb honey could be manufactured.

Surely a man can not attain to the greatest success in the sale of goods if he has no confidence in them; and surely in that large establishment on Main St., Buffalo, a man understanding his goods, and selecting them judiciously, could surprise the proprietor by the amount of sales which could be effected in comb and extracted honey alone; and, on the other hand, what an outlet would be secured for the bee-keeper's honey! The extracted honey shown by this store had been packed in a large packing-house. I will not say it was impure, but it was not good; and owing to the fact that it had passed through several hands, the price was higher than would be necessary if it had passed from the bee-keeper direct into the hands of the retailer.

This matter is surely important. The next question is, "How shall it be remedied?" The question is a difficult one. If a store could be induced to subscribe for a good live bee-journal, much could be done to educate the salesman. Bee-keepers, too, should be wide awake, and instruct the parties to whom they sell their honey, and place them in a position to refute statements injurious to the sale of honey. An instance: A customer comes in and says, "I would buy that honey, only there is so much manufactured at the present day, I fear yours may be." The clerk, who is doubtful himself, will, if he is conscientious, shut his mouth; if not, he may say, "This is not manufactured," etc. But if he can say with confidence, "It can not be manufactured," and show there is a reward of \$1000 offered for the manufactured article, which has never been claimed, then he is likely to convince his customers, and effect a sale.

I saw friend Herschiser in Buffalo, and he stated they even called honey "evaporated," and that if people could only feel sure that honey is pure, much more would be sold. R. F. HOLTERMANN.

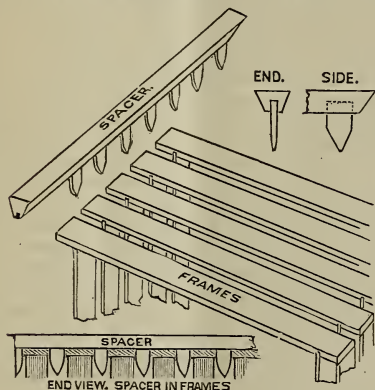
Romney, Ont., Apr. 23.

Friend H., what you tell us is truly astonishing, and, I might add, discouraging. By the way, you did a good thing when you started out to find out about honey. I have often done the same thing when waiting for a train in a large city, and I believe it is well worth while to canvass our towns and cities thoroughly whenever opportunity offers. It is not only on honey that clerks are often deplorably ignorant, but on many other things they handle. And here is a hint for those who are out of work, or think they do not get as much pay as they ought to. They do not read and inform themselves, and keep posted. Just talk with some of our runners for the large manufacturing establishments, and see how thoroughly they are posted, not only in regard to the goods they sell, but also in regard to the current gossip of the day, not forgetting manufactured comb honey. By the way, when you start out in a city, do not forget our reward cards.

FASTENING FRAMES AND TOP-BARS FOR SHIPMENT.

T. P. ANDREWS TELLS US HOW HE DOES IT.

THE questions, how to fasten on loose bottom-boards, and how to fasten the frames for transportation, seem to interest many who wish to move bees. Five years ago, while fixing up a carload of bees for a move, I devised and made a lot of comb-spacers, one of which (half length) I send you. By raising the front end of the hive, one of these spacers is readily slipped on to the bottoms of the frames, near the middle. Now, when you have let your hive down on to the bottom-board you have the frames fixed so there will be no swing to them.



Put one of the spacers across the top-bars, near each end, and you will have the frames secure from any movement on the rabbit. These spacers are cheaply made, quickly adjusted, and have none of the objections that are held against staples, nails, etc., driven into frames or hives.

To fasten on bottom-boards easily, securely, and cheaply, procure a lot of tins cut to about $\frac{3}{4} \times \frac{1}{2}$ in., and a supply of rather thick wire nails one inch long. Three of these tins, tacked on to each hive, one each side near the front, and one at the middle of the back end, holds the bottom-board to the body.

I drive a nail diagonally into the back end of the bottom-board, to keep the hive from slipping off when the front end is raised.

To cover the hives and at the same time give the necessary ventilation, I made frames of lath, halved together at the corners, just the size of the tops of the hives, which are not beveled. On to these cover-frames wire cloth is securely tacked. After the comb-frames are fastened, the enameled-cloth cover is slid back so as to leave an opening for air, the size of which is adapted to the strength of the colony and the warmth of the weather. The wire-cloth cover is then placed on the hive, over the enameled cloth, and fastened with four wire nails. When this is done, and the entrance closed with a cleat tacked on, the bees are in good shape to transport by wagon or rail, as I have occasion to know from a somewhat extensive experience in the use of these appliances.

T. P. ANDREWS.

Farina, Ill., March 6.

Your plan of fastening frames is very similar to the one we used last summer (see GLEANINGS, page 551, last year). The notches in our strips were not pointed.

Yours would have the advantage that they would crowd between the frames better. I don't believe I should like your method of fastening bottom-boards; it is too much work.

REMOVING QUEENS TO PREVENT SWARMING.

E. FRANCE ANSWERS A SEASONABLE QUESTION.

WHEN you remove the queen from a colony to prevent swarming, how long do you keep her out? What do you do with her in the mean time? and is there any trouble in putting her back?

The above question was handed in by one of our subscribers, for E. France. We forwarded the same to him, and he replies:

Our out-apiaries we visit only once a week. We simply cage the queens in the hive, and usually let her remain caged two weeks. The bees build queen-cells when the queen is caged, just the same as they would if the queen were taken away. We never cage more than three-fourths of the queens in the apiary, at one time, for the reason that we must have some young brood from which to raise queen-cells. After the queen has been caged one week we are on hand again to extract. It won't do to leave the queen-cells another week, so we tear them all out and give the colony at least one comb of very young bees and eggs, from which they will raise another batch of queen-cells. At the end of the second week we again destroy all queen-cells, and then liberate the queen. If we are making any new colonies at the time we are caging queens, then we would put the queens into the new colonies, and after two weeks let the old colony raise a queen. But sometimes bees will swarm with a caged queen. In that case, take the queen away, out of the hive; that will cure them, *sure*. But, remember that, if a colony has no queen, they must have something from which they can raise one; then they will work and feel happy. See GLEANINGS for 1889, p. 17.

If I were running for comb honey I would get the bees just as strong as I could without swarming; then take the queen away, give her a quart of bees and some combs, and there let her remain until the close of the honey-flow, say 20 days; then return her with her combs and brood. It would be safer to cage her for one day, but we don't do it, for by this time she has quite a nice lot of bees and brood to go with her. We have run a few colonies at home in this way for several years, and never yet have lost a queen in putting them back. Of course, the old colony that is at work all this time making comb honey must be kept supplied with brood, young enough, from which to raise a queen, and queen-cells are to be destroyed once in ten days, then give them more brood.

E. FRANCE.

Platteville, Wis., Feb. 23.

Friend F., you have struck upon one point that I didn't see. You say that bees will sometimes swarm with a caged queen; but, of course, in that case they will come right back to the hive, unless, indeed, they find some other swarm to unite with. It seems to me from the above that it does make a difference, in some respects at least, whether the queen be caged in the hive, or taken entirely away. A queen with a quart of bees can usually be returned to the hive

she came from, especially if honey is coming in, and they have no other queen hatched. At other times I think there will occasionally be trouble.

SPACING BROOD-COMBS.

HOW FAR APART SHALL WE SPACE OUR BROOD-COMBS FROM CENTER TO CENTER?

WHAT is the proper distance from center to center to space brood-combs— $1\frac{1}{8}$ inches? So far as I know, $1\frac{1}{8}$ is all right, and I think it is the distance agreed upon by the majority. But sometimes we settle down upon something in a kind of passive way, without any special reason for it; and sometimes that turns out right, but sometimes wrong. How about this spacing business? What do we know about it? *Why* is $1\frac{1}{8}$ better than $1\frac{1}{4}$ or $1\frac{3}{4}$? I don't know; but is it not time to examine the matter a little? One of the first factors in the problem is the thickness of brood-comb. If I am not mistaken, worker comb, when first made, is $\frac{3}{8}$ thick. As successive generations of brood are raised in it, the deposits at the base of the cell increase the thickness of the septum, and wax is correspondingly added at the mouth of the cell. So, you will see, the thickness of comb, although an important factor, is not a *fixed* factor. Without giving the matter any special attention, I have measured worker comb a plump inch in thickness. Here an eighth of an inch has been added to the thickness; and if the comb were twice as old, would not another eighth be added? So I should not like to say that $\frac{1}{8}$ is the average thickness, only that it is constantly increasing in thickness, that thickness being limited only by the age of the comb or the room the bees have to elongate the cells. I have seen cases where I suspected the bees had gnawed down every thing to the original septum of wax, just because through age the comb had become so thick that it could be made no thicker without making the passageway between the combs too narrow. If the bees could have moved the combs further apart, I see no reason why they might not have done so and gone on thickening the combs.

But I suspect that we so seldom have comb thicker than one inch that we may base our calculations on $\frac{1}{8}$ as the thickness of comb. And here I may remark, in passing, that friend Heddon, when he said he would have top-bars only $\frac{3}{8}$ wide if he had $\frac{1}{8}$ space between them, could hardly have counted much upon combs increasing in thickness with age. With top-bars $\frac{3}{8}$ wide and $\frac{1}{8}$ between them, there would be $\frac{1}{8}$ space between combs when new, and that space would be constantly decreasing as the combs grew older. While the comb is new there would be barely room for two bees back to back, each hugging down tight to the comb; and when the comb becomes one inch thick there will be only $\frac{3}{8}$ between the two faces—not room enough for the queen to stand erect. Would the bees tolerate such a condition?

The next question is, What space is desirable between the faces of the combs? There is good authority for saying that there should be more space between combs in winter than in summer. For all that, I think the majority will keep the same space summer and winter, and we are left to decide what, all things considered, is best for all the year round. Suppose we have our brood-combs spaced $1\frac{1}{4}$ from center to center, with a cluster large enough to oc-

cupy 8 combs. If, now, we space our combs a little less than $1\frac{1}{4}$ from center to center, 10 combs will go in the same space the 8 occupied, allowing us to raise a fourth more brood with the same bees, because they can cover just that much more. But there is a still further gain; because, when we put in the two extra combs, there is just that bulk of bees displaced to occupy more combs. The 8 combs measuring $\frac{1}{8}$ each, occupy $7\frac{1}{2}$ inches, leaving $4\frac{1}{2}$ inches as the measure of the bees that fill the spaces. Now, suppose we space our combs $1\frac{1}{4}$ inches from center to center. Take $\frac{1}{8}$ (the thickness of the comb) from $1\frac{1}{4}$ inches, and we have $\frac{5}{8}$ as the space to be filled with bees. We have $4\frac{1}{2}$ inches of bees, and these will fill 14 spaces of $\frac{5}{8}$ each. So we can have 14 combs covered by the same bees that covered the 8 combs, just by spacing them $\frac{1}{4}$ inch closer. In the same way, if we space $1\frac{1}{8}$ from center to center we shall find that, instead of 8 combs, the same bees will cover 24 combs, barring the fact that some of the bees may go into the cells. And so, the closer we space, the more brood we can raise, till—but, hold on! Another factor comes in. We can't space so close that the bees can't get between the combs to feed the babies, even if the queen had the eggs laid there. Moreover, there must be enough bees between the combs to keep up the requisite heat or the eggs will not hatch. A single bee can not hatch an egg, as a hen can; and in spring weather I don't think a single layer of bees could. So you see we gain by spacing closer, only up to a certain point. When we find just what the right point is, then spacing closer than that will leave some of our outside spaces too cold to hatch eggs, and we shall lose by it. *Somewhere* about $1\frac{1}{8}$ from center to center is right; but I don't suppose it is *exactly* $1\frac{1}{8}$. How can we find what it is? Upon that depends our spacing and the width of our hives. I suppose we need to find what is best for spring; for, after warm weather comes, it does not matter so much; and at the South, can we not space closer than at the North? I should not be surprised if some one points out factors that I have left out altogether, and I feel that it is worth while to find out all we can on this topic.

Marengo, Ill., Mar. 24.

C. C. MILLER.

Doctor, I am glad that you did think about accommodations for the nursing bees. When they are incessantly putting their heads into the cells, and backing out again, they can not afford to have cramped quarters, nor even to have somebody just behind them to hit against, every time they back out. Suppose *you* had to crawl into a cell to feed the children, and you were given such close alley-ways that you are striking a back wall every time you back out. Now have these alley-ways crowded with people, and see what a predicament you are in. Our packing-room has been too much like that during the past few weeks, and I tell you it pays to have more room or fewer people. I do not believe that combs ever ought to be nearer than $1\frac{1}{8}$ inches; and if they are old and crooked and wavy, I am in favor of something pretty near $1\frac{1}{2}$ inches. In changing combs about promiscuously, as we used to do every day and every hour, I have seen brood-combs pushed so closely together that the nurse-bees could not get in to feed the larvæ, and keep them from starving, with-

out cutting down the surface of the comb; and sometimes after having done this there was not room for the larvæ on both sides to be capped over, when they became large enough. Then our little friends had a serious problem on their hands. Now, I do not believe in putting combs too close, neither do I believe in turning them around and mixing them up promiscuously. Of course, the bees *can* adjust themselves to such bungling operations on the part of their keeper, but I am sure that it results in a loss of brood more or less, and consequently a loss of honey-gatherers when the season opens.

REMOVING THE QUEEN.

STIMULATIVE FEEDING, ETC.

I WAS surprised to read the answers in GLEANINGS regarding this question, as I often am in reference to stimulative feeding. I have tried both of these very carefully under the most painstaking caution to avoid any error—no guesswork at all. I am sure that our bees—and they are very much like other bees—do breed more rapidly when fed, in case no storing is in progress; and I am as fully convinced that removing the queen at the proper time, if done so as not to disturb the peace of the colony, will give more honey. It may not always be well to do this, but it does add to the harvest.

THE JOINT-SNAKE, AGAIN.

Willie Atchley has sent me another of these lizards. This one had never lost its tail, and was a beauty. In coming from Texas it took occasion to shed its scales, or skin. This was done in shreds, not entire, as seen in snakes. The specimen came in nice trim by mail, and delighted me. Judge of my regret, then, when a student, in studying its habits of motion, preparatory to giving a paper on this lizard before our Natural-History Society, let the latter crawl through a hole in the laboratory floor, and escape. The student felt even worse than I did.

SCALE LICE.

The scale lice, which secretes such an abundance of honey-dew, and which Mr. Jos. Barrington, of St. Mary's, O., reports as infesting his lemon-trees, are closely allied if not identical with the one sent by Dr. Miller, which infested the English ivy. The genus is *Mytilarps*. It is near, if not *nerii*. The plants should be treated with the kerosene emulsion, as I describe in Bulletin 58. This bulletin will be sent free to all who desire it, upon application.

Agricultural College, Mich. A. J. COOK.

Friend C., if you have tested these two subjects, stimulative feeding and removing the queen, at the college apiary, as you people usually test disputed questions, I think we shall have to give up on both points. I am surprised to learn that your laboratory floor is so poor as to have a hole large enough for even a glass snake to creep through. My observation was to the effect that your buildings and rooms were models of perfection. I earnestly advise all our readers who are interested in this matter of fighting insect-enemies to send for Bulletin 58. But, dear friend Cook, you had better hire an extra clerk in anticipation of the calls that will be made for it. Remember

that we GLEANINGS people are now almost 10,000 strong.

SWARM-CATCHERS.

A NEW USE FOR THE DRONE-AND-QUEEN TRAP.

"We don't want swarms," says our friend Shuck. Well, we do not; that is, some bee-keepers do not. The bees do not seem to know this fact; or if they do, they care nothing about the wants of man. When the bees get ready to swarm, out they come, and so they will continue to do, no matter what *we* want, or what the breed, strain, or race of bees happens to be. We have *all* found this out, haven't we, Bro. Shuck? 'Tis well enough to talk about a non-swarming race or strain of bees; but it is quite another thing to produce them by any means yet devised.

Well, now, recognizing these facts, why not be ready for the bees when they get ready to swarm? Let us provide the easiest, cheapest, and most practicable means for catching swarms when they issue. When we first introduced the drone-and-queen trap, friend Root said a good word for it, and at the same time remarked, "Now if some one will devise some way for hiving bees when they swarm, etc." (I can not recall just the words, as I have not the copy of GLEANINGS at hand that contained the article), "it will be a good thing," or words to that effect. Well, what we are getting at now is friend Root's comments in a foot-note attached to the description of an article describing the self-hiver we were invited to send GLEANINGS about a month ago. What puzzles me is this: Why it was that, when Bro. Root indicated that a self-hiver would be a good thing when speaking of the trap, some six years since, is the fact that he did not know at that time all about self-hivers, as mentioned in the foot-note spoken of above. The idea of inviting some one to attempt to invent a self-hiver, and then comparing it, when invented and described, to Mr. Quinby's "queen-yard" arrangement! Goodness, friend R., it makes me nervous to think about it. Quinby's device was about as much like our automatic swarmer as cheese is like chalk.

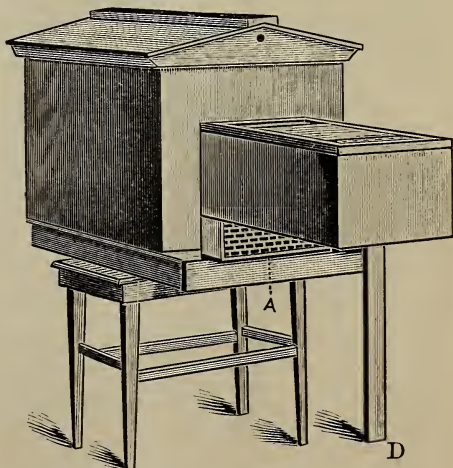


FIG. 1. TRAP ATTACHED TO A HIVE.

Excuse us for getting off the track. We will now

describe how to catch a swarm of bees in the drone-and-queen trap.

Those who use the trap have noticed that, when a swarm issues, and after the bees return to the parent hive, as many pile into the trap as can, and will be found there. The idea struck me that the trap might be made large enough to hold the entire swarm, and so we show the reader a cut of such a trap, and will describe how it is arranged, and its workings in catching a swarm of bees when they issue.

Fig. 1 shows the trap attached to a Bay State hive. You will see that it projects considerably beyond the front of the hive. The bees, to gain access to their hive, must pass under the trap and enter through the metal, A.

Fig. 2 shows the interior of the catcher. It is the same as the drone-trap. In fact, it is nothing but the drone-and-queen trap on a larger scale. Instead of being made just large enough to hold a pint of bees the trap will hold the largest swarm likely to issue from any hive.

The trap has a portable cover (c), so that, when a swarm has been hived, the bees can be quickly removed, or placed in a new hive. This device may be attached to the hive in a dozen different ways, to suit the fancy of the apiarist. It will be seen that there is a stake (D) driven into the ground under the front end of the trap, for the box to rest on.

B, as shown in Fig. 2, is a box, open on one side, so the bees can enter, while the opposite side is covered with perforated metal. This represents the bottom chamber of the drone-and-queen trap. Two conc-tubes are used for the bees to pass into the trap.

We stake our reputation as a bee-keeper, on the statement that this trap will catch and hive ninety-nine out of every one hundred swarms that issue. The queen will enter the trap, and, when the bees return in search of her, they will readily find her ladyship in the box, ready to receive them.

You will notice in the trap (Fig. 2), and just ahead of the cone-tubes, a strip of perforated metal. This is so arranged that it comes exactly over the entrance to the hive, and above the metal A. When the bees return after having missed their queen, they will pass into the trap through this metal, and join their queen. Here the bees will be found on the return home of the apiarist, when they can be disposed of to suit his pleasure. If no hive is ready, the box can be placed on the stand the bees are to occupy, and hived when most convenient. If the bees are to be returned to the hive they issued from, this can be done after the combs have been examined and the queen-cells removed or destroyed.

We shall send Bro. Root one of these traps, and arrange with him to make some at once, so those who desire can test them the present season.

Wenham, Mass.

HENRY ALLEY.

Friend A., I think I understand your arrangement as given in Fig. 1; but if I am

correct it is a little confusing in Fig. 2, because the engraver has not quite done his duty. The hiving-box, and B and C, are simply three separate articles, and rest upon each other in the manner shown, only for convenience. I really hope the device will hive 99 out of 100 swarms that issue. But without taking more space I think we had better wait for reports from those who are now using it to hive swarms. With the present crowd of business now upon us, we could not undertake to make any new thing just now; and as we have so little swarming, especially in connection with our selling bees by the pound, we fear we shall not be able to make a test of the machine that will be very satisfactory.

FRAME-SPACERS.

THICK TOP-BARS AND PERFORATED ZINC.

EVER since Dr. Miller and you were talking about that queen-excluding strip to go on the top of the heavy top-bars, I have been thinking; and this is what I have evolved: Instead of having a saw-kerf to slip the zinc into, which is almost sure to be glued up with propolis, bend the zinc into an L shape, and let the L part with the slots in slip down over two broad-headed nails driven into the side of the top-bar; then when a frame is to be removed, the zinc can be lifted out, and have the "lateral" movement, so desirable to the frame. They could all be taken off if necessary. Have I made my meaning clear? But I do not think any such arrangement will ever become practical, as it would be so much in the way in handling the frames.

If we are to dispense with honey-boards by using heavy top-bars, it seems we have got to have the frames spaced just exactly right; in fact, too exact for the average bee-man's eye to do the work; so, to help out, here I have invented what I call an automatic spacer, made thus, the points to be made of heavy tin, and to be just a bee-space at the base, and, say, one inch from base to point, and the distance between them to be just the width of the top-bars. Not to be left on the frames, but to crowd down from the top, so as to force the frames to the right place, two would be necessary; for if only one were used, the frames might move out of place at one end, while the other was being adjusted. They might be nailed to a block with a handle, something like your tool for fastening foundation in wired frames. If to be used to remain permanently on the frames, of course a $\frac{3}{4}$ block would have to be used. I think this might give the advantage of fixed ledges on the hive, with none of the disadvantages. What do you think? C. A. HATCH.

Ithaca, Wis., Feb. 19.

Friend H., your slips of zinc would be stiffer and safer to handle by having a fold made lengthwise, as you suggest; but I agree with you that they would be too much machinery. I do believe that some sort of frame-spacer would be an excellent thing, if we propose to do away with burr-combs by reducing the space between the top-bars. Ernest suggests that a spacer could be made by driving wire staples into the strip of

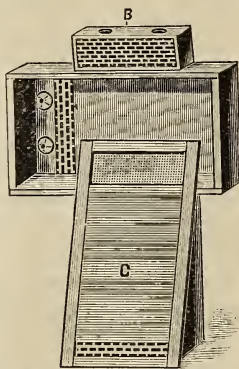
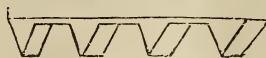


FIG. 2. OUR NEW SELF-HIVER.



wood. The round end of the staples would readily force the frames into position. Of course, the staples need not project out of the wooden bar more than far enough to bring the frame into position. Our friends who are fond of extreme accuracy in their work would like such an arrangement.

On page 415 another friend gives us an excellent illustration of a frame-spacer. His intention was to use it to keep the frames in position. But they will answer nicely for bringing frames into place, as suggested by friend Hatch above.

HONEY STATISTICS

FROM ALL PARTS OF THE UNITED STATES.

In order to read understandingly the reports given below, it will be necessary to observe the following points: First, the State is given; then next in their order are the names of the reporters, with their respective postoffices. To indicate locality, the usual abbreviations are used—N., S., E., and W., for north, south, east, and west; N. E. for north-east, etc. The letter C indicates the word "central;" E. C., east central, etc. In the following list, the first figure represents the month, and the second figure the date at which the report was rendered. The small letters, a, b, c, d, etc., indicate the answers to the questions propounded in questions a, b, c, etc., just below.

For some reason or other we have not received reports from all of our correspondents, although nearly two weeks have elapsed since the questions were sent out. The average date at which the replies are given is May 18. We propounded only two questions, and they are as follows:

a. *What percentage of loss did you sustain among your bees last winter, and by what method—indoor or outdoor?*

b. *As nearly as you can estimate, what was the percentage of loss in your locality, and by what method?*

ALABAMA.

J. M. Jenkins, Wetumpka. C. 5-19.
a, b, 10; out in the sun. Loss was caused by hard freeze March 1st, after a very warm winter.

W. P. W. Duke, Nettleborough. S. W. 5-20.
a, b, 2; outdoors.

ARIZONA.

Jno. L. Gregg, Tempe. C. 5-20.
a, 2; outdoors; b, 2; outdoors; all outdoors in this Territory. Have taken 3000 lbs. mesquite honey.

COLORADO.

Mark W. Moe, Denver. C. 5-17.
a, 4; bee-house; b, not over 5, mostly outdoors, no chaff.

CONNECTICUT.

Lewis Sperry, Hartford. 5-16.
a. Less than 10; outdoors; b, about ten per cent.
Daniel H. Johnson, Danielsonville. E. 5-16.
a, 10; outdoor; lack of stores; b, 10 to 20; outdoor, but all starved.

R. M. Wilbur, New Milford. 5-17.
No loss; 30 stocks; outdoors; 5 per cent; all outdoors.

GEORGIA.

Walter McWilliams, Griffin. W. C. 5-19.
a. None; outdoors; b, none; outdoors in Simplicity one-story, without enamel cloth.

T. E. Hanbury, Atlanta. N. 5-16.
a, b, No loss; outdoors. As a rule we have no loss in this section from wintering.

R. H. Campbell, Madison. 5-22.
a, 15; outdoors. b, 25; spring dwindling. It was summer till March, the next 60 days winter. Honey-crop a failure.

INDIANA.

Mrs. A. F. Proper, Portland. E. C. 5-19.
a, b, No loss. Outdoors.

I. R. Good, Vawter Park. N. W. 5-23.
a, 5½; cellar; rest, chaff; b, 5; outdoors in chaff.

ILLINOIS.

C. Dadant, Hamilton. N. W. 5-17.
a, 3 per cent, both ways; b, 10 or 15; out; starvation the cause. No loss anywhere except from overbreeding and subsequent starving.

F. W. Goodrich, Bloomington. C. 5-15.
a, 5; outdoors; b, 10; outdoors.

C. C. Miller, Marengo. N. 5-16.
a, 7 per cent indoor; b, 10 per cent, mixed. Bees booming; heavy in bees, but weather is cool, and bees may starve in June as last year.

Mrs. L. Harrison, Peoria. W. C. 5-17.
There has been no loss, indoor or out, except by starvation. Bees did well this spring, until the May freezes; since then bees have been chasing out the drones; some would have starved had they not been fed.

INDIAN TERRITORY.

R. W. Swain, Vinita. 5-17.
a, 1 had 25 stands; lost 1 from moth; outdoor; b, very little loss.

IOWA.

Z. T. Hawk, Audubon. W. C. 5-16.
a. Lost none; cellar; b, 12½; cellar, mostly. I have lost a few colonies by robbing since placing them out. All are short of stores.

Eugene Secor, Forest City. N. 5-20.
a, b, 10; cellar.

J. W. Bittenbender, Knoxville. S. E. 5-15.
a, 5; wintered in cave; b, 8; wintered outdoors; bees in good condition, but very dry; unless a rain comes soon, the honey-crop will be short.

Oliver Foster, Mt. Vernon. E. 5-17.
a, 30; indoors; 1 per cent outdoors; b, 10 indoors.

A. Christie, Smithland. W. 5-17.
a. About 2; part in cellar, part outdoors; chaff in upper story, over bees. b, I can not estimate, more than that loss is small.

KANSAS.

B. F. Uhl, Boling. 5-19.
a, No loss; outdoors; b, no loss; on summer stands.

J. B. Kline, Topeka. E. C. 5-16.
a. Part indoors and part out. No loss. b. None to speak of.

KENTUCKY.

D. F. Savage, Hopkinsville. S. W. 5-20.
a, No loss; outdoors; b, 5; outdoors. A few cases of spring dwindling.

J. P. Moore, Morgan. N. 5-16.
a, 0; outdoors; b, 25; outdoors.

MAINE.

J. Reynolds, Clinton. S. E. 5-19.
a, 0; cellar; b, 8; report says mostly loss of queens.

C. W. Costellow, Waterboro. S. W. 5-17.
a, 10; outdoors in single-wall, without protection. b, 5; all methods.

IDAHO.

Whitney Bros., Payette. 5-19.
No loss to speak of; bees get no care whatever; and, under circumstances, do well.

MARYLAND.

Simon P. Roddy, Mechanicstown. 5-18.
a, 0; outdoors, frame hives; b, 10; outdoors; box hives.

S. Valentine, Hagarstown. 5-21.
a, 5; outdoors; b, 25; starving out.

MASSACHUSETTS.

J. E. Pond, No. Attleboro. S. E. 5-19.
a. Saved all. Wintered outdoors. b. Probably 20, all outdoors. Few bees are kept within 25 miles of my residence. 100 colonies would cover the number, I think. I wintered only 5 colonies.

E. W. Lund, Baldwinville. N. C. 5-19.
a, b, No loss; in chaff hives. I wintered outdoors.

Wm. W. Cary, Colerain. N. W. 5-16.
a. None, only by queenlessness; cellar and six hives; b, 5 to 10; cellar and summer stands. Condition of bees never better at this season of year.

MICHIGAN.

R. L. Taylor, Lapeer. 5-17.
a, 5; cellar; b, 15; part outdoors, unprotected, and part in cellar.

George E. Hilton, Fremont. W. 5-17.
a, b, 5; chaff hives.

A. J. Cook, Lansing. C. 5-15.
a, 5; in cellar; starved; none outdoors; b, about 10; three-fourths cellar; one-fourth on summer stands.

James Heddon, Dowagiac. S. W. 5-16.
a, ½ outdoors, no loss; ½ indoors, 30 per cent loss. b. The same as above was practically true with all the bees in this locality.

H. D. Cutting, Clinton. S. E. 5-18.
a, 2 from 62 after setting out from cellar. Those packed out, no loss. b, 10 to 12; nearly all outdoors.

MINNESOTA.

W. Urie, Minneapolis. E. C. 5-20.
My own bees sustained a loss of 15 per cent in bee-house, made nearly frost-proof, built on top of the ground. The loss in this part of the State is fully 25 per cent. Almost all are wintered in cellars. I do not know of any parties who use the chaff hive.

N. P. Aspinwall, Harrison. C. 5-20.
a, 2½; cellar; b, 50; cellar; cause, honey-dew producing dysentery.

MISSOURI.

Jno. Nebel & Son, High Hill. E. C. 5-17.
a, 1; cellar; b, 5; outdoors.

James Parshall, Skidmore. N. W. 5-19.
a, 15; outdoors, in single hives; b, about 15; mostly by starvation.

Chas. L. Gough, Rock Spring. E. C. 5-19.
a, 24; outdoors; b, 50; outdoors.

E. M. Hayhurst, Kansas City. W. 5-17.
a, 0; cellar; b, 5; outdoors.

S. E. Miller, Bluffton. E. C. 5-18.
a. 17; winter and spring; outdoors; b. perhaps 20; chaff division-boards and cushion in S. hives.

NEBRASKA.

J. W. Porter, Ponca. N. E. 5-17.
a. 85; outdoor trench; b. 25; lack of stores.

F. Kingsley, Hebron. S. C. 5-21.
a. 0; outdoors; b. 5; outdoors, no packing.

J. M. Young, Plattsmouth. 5-19.
a. $\frac{1}{2}$ of our apiary is lost; all died in summer hives; but little loss in chaff hives; wintered on summer stands. b. $\frac{1}{2}$ of the bees in general are dead, all caused from starvation. The wintering on summer stands is practiced more than any other method, and without chaff.

NEVADA.

E. A. Moore, Reno. W. C. 5-22.
a. 5; outdoors; all my hives are Simplicity. b. 25; outdoors; mostly in old box hives. The winter was the coldest we have had for 30 years, to my knowledge. Bees are doing splendid at present time.

NEW HAMPSHIRE.

C. E. Watts, Rumney. C. 5-19.
a. 66; cellar too cold; b. 15 to 30. I think nearly all in cellar.

L. A. Freeman, Lancaster. N. W. 5-18.
a. 30; cellar; b. 35; indoors. Cause, dysentery. I never heard such universal complaint.

NEW JERSEY.

Watson Allen, Bernardsville. N. C. 5-19.
a. 6%; outdoors, in chaff hives; b. 10; outdoors, in single-wall hives.

J. D. Coles, Woodstown. S. W. 5-19.
a. 28; chaff; b. 40; outdoors, old-style gum.

NEW YORK.

G. M. Doolittle, Borodino. C. 5-17.
a. 25; part in cellar, part outdoors; b. 25; same as above, cause, honey-dew.

H. P. Langdon, East Constable. N. E. 5-19.
a. 12; cellar; b. 25; cellar.

G. H. Knickerbocker, Pine Plains. 5-17.
a. 5; in cellar; no loss in those wintered outside. b. 10, mostly outdoors.

NORTH CAROLINA.

Abbott L. Swinson, Goldsboro. E. 5-20.
a. 10; open air; b. 50; open air.

OHIO.

A. B. Mason, Auburndale. N. W. 5-17.
a. 3; starved; cellar; b. 5; outdoors and in cellar.

Chas. F. Muth, Cincinnati. S. W. 5-16.
a. Lost none; but 3 colonies had lost their queens; outdoors; b. perhaps 20; mostly in single-walled hives.

S. A. Dyke, Pomeroy. O. 5-17.
a. 20; outdoor; in chaff mostly. b. 10; outdoors. My loss was caused by dividing too late.

Dr. G. L. Tinker, New Philadelphia. N. E. 5-16.
a. No loss. All outdoors, in winter cases. b. 3; starvation; wintered in chaff and single hives.

Dr. H. Besse, Delaware. C. 5-20.
a. 10 cellar, and 15 by spring dwindling; b. about 20 to 30, as nearly as I can learn, mostly from springing; too much cold rain during time of bloom.

PENNSYLVANIA.

S. W. Morrison, Oxford. S. E. 5-17.
a. No loss; outdoors; b. 40; box hives, summer stands. Prospect for a big crop of honey excellent; too much rain, the only thing that can prevent.

Thos. C. Davis, Pittsburgh. C. 5-19.
a. No loss, except three queens, out of 34; outdoors in chaff; b. heard of no losses except a few queens, outdoors.

C. W. King, Emlenton. N. W. 5-20.
a. 100; b. 98; outdoors.

RHODE ISLAND.

A. C. Miller, Providence. E. 5-17.
a. None; outdoors; chaff, unpacked; b. 30 to 40. All by starvation.

Samuel Cushman, Pawtucket. 5-15.
a. Mine, 5; few in cellar. b. Box hive fared badly. Loss from starvation throughout the State, probably 50 or 60.

SOUTH CAROLINA.

H. T. Cook, Greenville. 5-18.
a. 4; b. light.

W. J. Ellison, Stateburg. C. 5-21.
a. 3; starvation; outdoors; b. I don't know.

J. D. Fooshe, Coronaca. 5-17.
a. No loss; outdoors; b. none; Simplicity and box hives.

TENNESSEE.

W. H. Greer, Paris. N. W. 5-19.
a. b. 25; outdoors.

C. C. Vaughn, Columbia. C. 5-20.
a. 2; outdoors; b. 8; outdoors; no packing, thin hives.

Gaston B. Cartmell, Jackson. W. 5-19.
a. I had 45 stands; lost 2; b. outdoors, without protection.

TEXAS.

J. P. Caldwell, San Marcos. S. W. 5-18.
a. None; outdoors, in S. hives. b. 5.

L. Stachelhausen, Selma. S. C. 5-18.
a. 2, by queenlessness; outdoors. b. 2. We have no winter losses here except by queen losses or starvation.

J. E. Lay, Hallettsville. S. W. 5-21.
No winter losses here.

VERMONT.

A. E. Manum, Bristol. W. 5-19.
a. 3 winter and 3 in spring, making 6 in all; outdoors, chaff. b. 30; outdoors in chaff.

J. E. Crane, Middlebury. W. 5-15.

a. 33; cellar, 75; outdoors in chaff hives, 26. b. About 30; wintered mostly outdoors in chaff hives. Cause of loss, gathering a large amount of honey-dew last year.

H. E. Harrington, Walden. 5-19.

a. 0, in sawdust; 25 without sawdust; cellar; average, 16. b. 23; cellar.

Howard J. Smith, Richford. N. C. 5-17.

a. 0; cellar; b. 25, outdoors. Cold wet weather.

F. M. Wright, Enosburgh. E. 5-17.

a. 5; cellar; b. 10; cellar.

VIRGINIA.

H. W. Bass, Front Royal. N. 5-17.
a. 3; outdoors. b. 5; outdoors.

WEST VIRGINIA.

J. A. Buchanan, Holliday's Cove. N. 5-20.

a. 2; outdoors; b. 5; outdoors. Loss from starvation will be great within the next ten days, unless feeding is attended to, as no honey has been gathered.

Will Thatcher, Martinsburg. W. C. 5-17.

a. One colony out of 60; a pure case of starvation; outdoors; from 3 to 4 inches timothy chaff in burlap cushions over brood-chamber. b. With proper care, no loss.

Jno. C. Capehart, St. Albans. S. W. 5-19.

a. 0; outdoors; b. no other modern bee-keepers in my locality.

M. A. Kelley, Milton. S. W. 5-17.

a. 7; outdoors; b. about 10; all outdoors. No chaff hives used.

WISCONSIN.

Joshua Bull, Seymour. E. 5-19.

a. 35, cellar; 19, outdoors in chaff; loss mostly from spring dwindling; b. 30 to 50; cellar and clamp. One bee-keeper lost all of his bees. Cold backward spring, unfavorable for bees to build up.

S. I. Freeborn, Ithaca. S. W. 5-19.

a. 25; cellar; b. 25; mostly cellar wintering.

Frank McNay, Mauston. C. 5-16.

a. 25; indoors; b. 25; indoors.

E. E. Tongue, Hillsboro. 5-19.

I wintered mine on summer stands in L. hive, no loss. I haven't found any loss last winter; all good; all winter in cellar.

E. France, Platteville. S. W. 5-17.

a. 6; outdoors in chaff; b. 10; outdoors.

A summarized statement is as follows:
The average percentage of loss among the special reporters during the past winter is only 8 $\frac{1}{2}$ per cent. By referring to the statistics of a year ago, we find that the loss was 9 per cent. We expected to see a smaller percentage for this year. The only losses, with few exceptions, that occurred during last winter, of any account, were from overbreeding and consequent starvation. If we eliminate this cause of mortality, the percentage will probably be very low. The average loss in the vicinity of the reporters, we find to be 14 $\frac{1}{2}$ per cent. Last year at this time it was 17 per cent.

Perhaps it will be interesting, right here, to compare the average losses of the three preceding winters, since we began the department of statistics. The special reporters' loss during the winter of 1887 was 16 per cent; during 1888, 9 per cent; during the winter of 1889, 8 $\frac{1}{2}$ per cent. The locality losses for the winter of 1887 were 33 per cent; for 1888, 17 per cent; 1889, 14 $\frac{1}{2}$ per cent. It is to the credit of the books, periodicals, and progressive apiculture, that the winter losses have been decreasing. Although the reports do not show it, we notice by correspondence that there has been a very heavy loss in the region of Gallupville, N. Y., many bee-keepers losing all their bees. The cause is attributable to honey-dew. One bee-keeper said his Italians, because they gathered nothing but white stores, wintered beautifully, while his blacks and hybrids, having gathered a lot of honey-dew and buckwheat, almost all died—a great score for Italians, because they will get white stores if there is any possibility of doing so. We also gather from correspondence that there have been quite heavy losses in certain parts of Minnesota.

TREATING DISEASE WITHOUT MEDICINE.

A REVIVAL OF ONE LINE OF THE OLD WATER CURE.

I SINCERELY hope that my friends of the medical fraternity will not think that I am trespassing on their domain; in fact, I look for and beg their assistance and indorsement, that we may fight down frauds and swindles as a common enemy to mankind. Almost everybody knows more or less about the water-cure that made such a stir in regard to the treatment of disease perhaps 35 or 40 years ago. Water-cure establishments were plentiful in almost every locality then, and people went about to give lectures, and proposed to cure all diseases by water alone. Pure water was called the obvious natural remedy furnished by the great Creator to his creatures; and, like the advocates of electricity a little later, they loudly claimed that it was all-sufficient for every disease that flesh is heir to. Some of us smile now as we remember how these things had their day, and finally passed away. Water cure, however, has not entirely passed away. When you send for your family physician, nine times out of ten he will call for some hot water—a dipperful, a pailful, or perhaps a tubful; and if you just look back you will remember that the patient usually got better right away, when the physician decided that the water was what was needed. I once fell from a building and hurt my ankle. The pain was so intense that I groaned aloud (if it had been a woman, perhaps she would have kept still; you know how it is when a man is in pain). A doctor was soon procured, and I begged him to give me something—brandy or chloroform. He said he guessed all I needed was a little hot water. He put his hand into it, and said he guessed that would do, and told me to put my foot in it, even if it did come pretty near scalding. I thought at first I could not bear the water because it was so hot; but finally I got it down so the water covered the swollen ankle. The pain eased up as if by magic, and I have oftentimes wondered if it were possible that so simple a remedy could do so much. When you are so tired and worn out that you feel as if you could hardly put one step before the other, a bath in pretty hot water will set you up bright and vigorous. You are perhaps all well aware of this. A great many times we suffer because of the lack of soap and water. Perhaps some of you would resent such a charge; but, hold on a little. A woman was once deaf, and had been so for years. A traveling lecturer on physiology, by means of soap and water, and a proper syringe, washed out the accumulations of the ear so that she heard again as well as she ever did. This was accomplished in less than an hour. Water applied in the proper way sometimes performs wondrous cures in washing out the accumulations between the nostril and the ear. We all know what water will do for the feet when sore, or when treating them for corns. At some of our sanitariums they give relief by bathing, accompanied by rubbing and kneading the

body. One of the most prominent physicians of the United States has of late accomplished great things by giving his patients hot water to drink. You may smile at this. Why should anybody need a doctor to administer drinks of hot water? Well, I do not know. They claim to have received great relief from swallowing hot water in large quantities. And now we come to the point that has prompted this article.

If water performs such wondrous cures externally, or when introduced into the ear and nostril, or other organs of the body, why may not great benefit accrue from a thorough washing and cleansing of the digestive apparatus? When you come to think of it, I presume you will be ready to say at once, "Why, sure enough!" and I believe that is just what our physicians have been doing more or less for ages past. Have you ever felt, my friend, as if you would give a good sum of money to be able to wash out your "insides" as thoroughly as you can your "outsides"? I have felt just that way a good many times, and have thought of the method in common use for doing it; yet it seemed to be a good deal of a medical operation, and I always supposed it must be done by the aid and advice of a physician. When we want to cleanse a jug we can cleanse the outside very easily, because it is in plain sight. If we want to cleanse the inside, however, the best we can do is to put in some water, and shake it about thoroughly. This we can keep doing until the water we pour out is as clean as when it was put in. Then we pronounce the jug clean. If we want to clean a barrel, we do the same thing; and by giving a barrel a vigorous tumbling about, we can secure a pretty thorough rinsing; and this is what Dr. Hall claims as his great discovery; and yet it is not a discovery, nor is it new at all. See the following, which I copy from the first doctor book I pick up:

"Water about blood-warm should be used when the purpose is to relieve constipation, and a considerable quantity—one to three pints, or more—may be used. The water should be retained for a few minutes, while the bowels are kneaded and shaken."

The kneading and rubbing of the body amounts to exactly the same thing as shaking the jug or barrel, that the hot water may effectually dissolve away all accumulations.

And, by the way, I think I will copy the entire paragraph on this subject. It comes from Dr. Kellogg's "Rational Medicine," under the head of "Rational Remedies for Disease." More than 100 pages are devoted to the use of water in the treatment of disease. We have eye-baths, ear-baths, sitz-baths, foot-baths, wet sheet, vapor bath, etc. Here is the paragraph in question:

ENEMA.

Fecal accumulations in the lower bowel are more quickly and easily removed by an enema of warm water than by any purgative, laxative, or cathartic ever discovered or invented; and the use of this remedy is never accompanied with the unpleasant and painful griping and tenesmus which often accompany the use of cathartics. The administration is a trifle more troublesome, but the results are enough superior to more than repay the inconvenience. The syphon syringe is far preferable to

any other for administering injections. Water about blood-warm should be used when the purpose is to relieve constipation, and a considerable quantity—one to three pints, or more—may be used. The water should be retained for a few minutes, while the bowels are kneaded and shaken. If there is difficulty in retaining the water, a folded napkin should be pressed against the anus. In hemorrhage and inflammation of the lower bowel, cool or cold clysters should be employed, and should be retained as long as possible. The copious cool enema is a valuable antiphlogistic remedy used in conjunction with the cool bath in cases of violent febrile excitement, as typhoid fever, when temperature rises above 103° F. Large enemata of water, or of water containing quassia, are the best mode of treatment of ascariæ, or the so-called seat worms.

Large, or what are termed forced, enemata are also recommended by Dr. Mosler as the most successful means of relieving intussusception. They are also recommended in hernia and in the treatment of tape-worm, in connection with other anthelmintics. In catarrh and other diseases of the large intestines they are useful in cleansing and washing away acid secretions and foreign matters as well as in applying local treatment. A. Robrick, of Vienna, has observed that injections of water into the colon increase the fluidity of the bile secreted by the liver. This fact has led to its employment in jaundice due to catarrh of the biliary ducts as well as to other causes, and, according to Dr. Mosler, with successful results. In administering a forced injection, the syphon syringe should be employed. The patient should lie on his back with his hips elevated, and the enema should be administered slowly. When colicky pains occur, the injection should be withheld for a few minutes, until the pain subsides. When it is desired to force fluid into the small intestine, which may be done in case of necessity, the patient should be placed on his knees and shoulders, so as to lift the pelvis as much as possible, and the fluid should be introduced slowly.

Now, please notice, friends, when you pay money for a recipe or secret, the seller, as a matter of course, gives all the *advantages* of the great discovery, and puts it in the most glowing terms, while he entirely ignores its drawbacks or dangers; at least, such has been my experience. Printed circulars, scattered far and wide, from Dr. A. Wilford Hall, illustrates this very pointedly. Now, please read the following from p. 664, Dr. Kellogg's book:

But the enema may become a source of mischief if abused. If habitually relied upon to secure a movement of the bowels for a long time, the bowels lose their activity, and the most obstinate constipation sometimes results, precisely as from the prolonged use of purgatives.

Dr. Kellogg declares that this very matter of thoroughly washing or rinsing these organs *may* be a means of mischief. I understand that physicians do not all agree in regard to this. While some say the use of water internally will do no more harm than washing the hands and face daily, others agree with Dr. Kellogg. A good many of us would be very glad indeed if nature would at certain times forbear a little, and, if the use of water would induce her to get over a little of her "activity," what harm would it do to use it?

Dr. Hall also makes quite a point of his treatment for diarrhea, giving the idea to the reader that this is a part of his discovery.

Now let us see what Dr. Kellogg says under the head of "Diarrhea," after giving directions in regard to diet, on page 907 of "Rational Medicine." He writes:

Next in importance as a measure of treatment, is the proper employment of enemata. We have seen more benefit derived from the injection of large

quantities of hot water—as hot as could be borne, and in as large quantities as could be retained—than from any other single measure of treatment.

After reading the above I was greatly surprised to find I could bear water internally so hot as to be painful to my hand, without any inconvenience whatever; and this very warm or hot water seemed to give wonderful relief. In fact, the effect is very much like that of the rested feeling that comes from taking a pretty hot *external* bath. I am satisfied, too, that these *large quantities* of hot water do remove accumulations that may have been productive of harm for months, or may be *even years*. We read on the same page:

The hot or cold water used in injections should be employed in considerable quantities, either as hot as can be borne or quite cool.

From personal experience I am pretty well satisfied that no harm can come from using any excess of hot water, even if the quantity be so great as to produce a momentary sensation of sea-sickness.

There is much more in the book mentioned, on this subject; but the above, in connection with the advice of your physician, will be sufficient. And finally, dear friends, do not think of sending \$4.00 to anybody for some one's *secret* discovery, when your own family physician knows all about it, and has known so for years. Your family physician will also be glad to tell you all that is known in regard to it. There are a great many good physicians among the readers of GLEANINGS, and I appeal to them whether I am not right. Very likely, good will result from calling the attention of the world at large to this special line of water-cure treatment. We can not very well make a mistake in keeping ourselves *too* clean.

SPECIAL DEPARTMENT FOR A. I. ROOT, AND HIS FRIENDS WHO LOVE TO RAISE CROPS.

That art on which a thousand millions of men are dependent for their sustenance, and two hundred millions of men expend their daily toil, must be the most important of all—the parent and precursor of all other arts. In every country, then, and at every period, the investigation of the principles on which the rational practice of this art is founded ought to have commanded the principal attention of the greatest minds.

JAMES F. W. JOHNSTON.

WHAT SHALL WE DO WHEN THE GROUND IS ALL THE WHILE TOO WET TO PLANT?

TO-DAY, May 24, almost nothing of our main crops is in the ground, because of heavy and incessant rain. For two seasons past we have had a similar experience, and were therefore partly prepared for it. We have had some sad experience in trying to work ground when it was too wet, and had therefore decided to have it in proper order, no matter how long it took. But here it is, almost June 1, and only one planting of corn has been made. Our first potatoes are pretty nearly knee-high, and so are some of the weeds. By watching our chances we have cultivated them up a few times; but if any portion of the weeds is left on top of the ground, they start to grow again. What cultivating we have done has been done when the ground was too wet for the horses to step on. A week ago to-day, by

working men, boys, and teams, until after sundown, we got in most of our early potatoes. The ground was so wet then that our teamster protested all day. Ever since then the ground has been almost like a swamp. The underdrains and overdrains are doing their duty, but they are not adequate. The only thing that can be worked is our plant-beds, six feet wide, and raised a foot or more above the paths by means of boards up at the sides. These plant-beds are worked without stepping on the soil at all, and, of course, it is all hand-worked; but the ground is manured and made soft with peat and sand, so it is so light and soft the garden-rake will give it all the cultivation needed. Just now I am seriously contemplating half an acre raised up in this way, to be worked entirely by hand. The only trouble is, during severe drouths it is hard to keep them wet enough so they do not dry clear through from side to side. Several times during the past week the ground would do pretty well for planting by hand, but it would not do for a horse to step on it. I presume that the great quantity of manure we have worked into it helps to hold the water. We first cover the ground with all the manure we can plow in; then we cover it again with a manure-spreader, and work this in with a cut away harrow. By the way, the cut away is the most useful tool for working manure into the ground I ever saw. When all other harrows would clog up and scrape the manure into heaps, the cut-away just chopped the manure and soil all up together, and turned it under in a way that could not help make any cultivator of the soil smile. Well, as I was saying, there have been several times during the past week when we could have planted by hand were the ground only marked. At half-past four this morning, the teams could have got along very well; but none of our men were up, and the horses had not been fed, or I should have got at it. By the time they were fed and ready, another drenching rain closed the business for the day, and to-day is Saturday. Garden-stuff already commands tremendous prices, just because of this continued wet weather; and I suppose that those who have any stuff to sell will have their own price. But how can it be done unless we make our gardens in raised beds, as I have mentioned, and substitute hand work for horse power?

To-day I have been considering putting in some things by stretching a string. As a rule, this does not pay, for we not only have the labor of moving the string at each row, but the digging must all be done by hand. The furrower and marker, drawn by a team of horses, is by all odds the cheapest and best, even for small patches of ground; and for setting cabbage and celery plants, the fine dirt thrown up by the furrower is just what is wanted to put back around the plant. For tomatoes, melons, squashes, and cucumbers, or any thing that is to be put from 6 to 9 feet apart, the labor of using the string would not be so great; and if we can, by the use of it, secure a crop when nobody else has any, it might pay exceedingly well. One objection to using a string, however, is

the tramping on the ground, necessitated by boys running back and forth to move the string, as well as in transplanting the plants. I am getting every year more and more averse to tramping over the ground—not only by the horses, but by men and boys, especially after it is worked up to a very high degree of fertility. Raised beds 6 feet wide seems to be the most feasible plan; and I feel sure these will pay for many products. They could be cropped very closely, and the ground kept so light and mellow that cultivation could be done very quickly and thoroughly by using rakes of different widths.

OUR QUESTION-BOX.

With Replies from our best Authorities on Bees.

All queries sent in for this department should be briefly stated, and free from any possible ambiguity. The question or questions should be written upon a separate slip of paper, and marked, "For Our Question-Box."

QUESTION 161.—*Jones and Brown have been keeping bees on shares. Jones is the owner, and Brown is the apiarist. They agree to share equally in the profits and in the expenses. During the following winter three-fourths of the bees die. Jones avers that they were lost through carelessness on the part of Brown, and that he (Brown) ought to stand half the loss. Brown denies lack of attention, and says that, as the bees belonged to Jones, and no provision was made in the contract for such an emergency, the owner (Jones) must stand the loss. Both parties, however, agree to abide by the decision of a majority of the respondents to the Question-Box. Gentlemen, your advice is eagerly sought.*

Let him who loses no bees cast the first stone at Brown.

New York. C.

P. H. ELWOOD.

Ordinarily a share in the profits would imply a share in the losses, there being no provision to the contrary.

Illinois. N. W. C.

MRS. L. HARRISON.

Under the given state of facts, each must stand half the loss, even if not occasioned by the carelessness of Brown.

Wisconsin. S. W.

GEO. GRIMM.

I say Jones, providing the bees were well cared for, unless they agree, as would seem to me to be wise, to share it equally.

Michigan. C.

A. J. COOK.

If the above is a true statement of the case, Jones must stand the loss. Such has been my experience, and I never knew an agreement to the contrary.

Ohio. N. W.

A. B. MASON.

Don't keep bees on shares. There is always a chance for injured feelings. Better buy a few colonies, then Brown will surely be interested in their welfare, for they are his own.

New York. C.

G. M. DOOLITTLE.

If through the carelessness of Brown, he should share the loss, otherwise it is Jones's loss. If bees were insurable, and Jones had had them insured, would he give half the insurance money to Brown? On the other hand, if the insurance company thought the loss was through carelessness, they would not pay the loss.

Louisiana. E. C.

P. L. VIALON.

If Brown tended to the bees to the best of his ability, then they were Jones's bees that died, and Jones will have to stand the loss. The following spring they will commence the season with the bees they had left from the previous year, if they agree to keep on.

Ohio. S. W.

C. F. MUTH.

Such a question is very difficult to solve, especially as no evidence is given as to the locality where the bees are kept; yet if there are, not far from the apiary of Jones, some competent bee-keepers whose winter losses were much smaller than those experienced under the management of Brown, it would seem that the increase of loss was due to his carelessness or lack of experience, and that he ought to stand at least half of the loss.

Illinois. N. W.

DADANT & SON.

Unless gross carelessness on the part of the apiarist can be shown, the owner should stand the loss. Bees are precarious property. If the owner himself, or any other man, had taken care of the bees in this case, the result might have been the same. Although my losses in winter are usually small—less than 10%—I would not keep bees on shares for any man on ordinary terms, and agree to stand half the loss, or quarter of the loss, in wintering. I should consider the risk too great.

Illinois. N. C.

J. A. GREEN.

Jones, as a bee-keeper, undoubtedly knew the liability to loss in wintering, yet he makes no provisions to meet it in his contract. It is presumed that Brown was under obligations to use reasonable care on his part. Unless the loss was clearly the result of gross neglect, unreasonable and inexcusable in Brown, I can not see why Jones should have any claim upon him for the loss. But if Brown permitted this loss when he could have averted it by care or labor on his part, he ought, in justice, to have a share of it.

Ohio. N. W.

H. R. BOARDMAN.

If I understand the matter, Brown would stand all the loss if the bees were struck by lightning and all burnt up. So Jones is not to share in any losses. If, however, Brown is culpably careless, he must pay for the resulting damage; not sharing the loss, but paying all the damage. If the loss is partly Jones's fault he should pay for that part of the damage which results from his carelessness. It will probably be a difficult matter at best to decide just how far the loss has resulted from carelessness, and I counsel that each man be willing to do a little better than is right to his neighbor.

Illinois. N.

C. C. MILLER.

Not knowing more about the matter, it is impossible to decide. I have an idea you are both to blame for the loss. Brown may have taken away too much honey and left the bees to starve in the winter. In that case Brown should stand his own half of the loss; then as Jones is the owner of the bees, it is fair to suppose he had had more experience than Brown, and should have known the condition of the bees in the fall, and advised Brown what to do. If I had seen the bees in the spring after the loss, I could then give an opinion; but without any evidence whatever as to the cause of the loss, I can not decide.

Wisconsin. S. W.

E. FRANCE.

To decide this matter between Jones and Brown, I guess we shall have to have them before us to show or prove contract, for on the contract the matter rests. Ordinarily, in such partnerships the party owning the bees will have to take his chances on hard winters and poor honey-seasons; but he has a right to demand good and timely attention on the part of his tenant. If Brown properly cared for the bees, and they perished through some peculiarity of the season, Jones can not reasonably claim their loss as a part of the expense. On the other hand, were they lost through carelessness or improper handling at the hands of Brown, Brown should stand the loss resulting from his mismanagement.

Wisconsin. S. W.

S. I. FREEBORN.

I should say that Jones was the loser, as no provision is made in the contract to cover such a loss. Jones, it seems, is to furnish bees, and Brown to do the work; and as there seems to be no willful neglect or want of care on the part of Brown in caring for the bees, Jones must stand the loss. I have one apiary let out in this way for five years. At the start I furnished 148 colonies, but I did not agree to furnish more if they died, neither did my man agree to keep the number good. In three years the bees dwindled down to 28 colonies. I did not ask the man to make the 148 good. I let him the apiary with full confidence in his ability to manage it. If he was not competent, I simply misjudged, and I must stand the loss; but bees sometimes die with the best of management.

Vermont. N. W.

A. E. MANUM.

As no contract was entered into about the losses, it follows that neither can claim pay for loss of any thing belonging to him, unless unquestionably caused by the gross carelessness or criminality of the other. This is a general rule covering all kinds of property owned by either. It is implied, if not expressed in all such contracts, that the apiarist shall use due diligence and care with the other's property; but the burden of proof is on the owner. As there is a simple claim of carelessness on one side and of denial on the other, it looks to me as though Jones will have to stand the loss. My Iowa apiary of about 150 colonies is rented on somewhat similar terms, and we sustained quite a loss two winters ago; but I never contemplated making any claim for the same, except that new colonies next year were all mine until the original number was again secured.

Cuba.

O. O. POPPLETON.

Well, well! We are now in a responsible position, but we will not shirk the responsibility. The questioner seems to admit, that, had Brown given proper attention to the bees, the loss was to rest with Jones, which is usually the case where bees are taken on shares. Now, then, a question arises, and a dispute between Brown and Jones, as to proper attention being given the bees. Now, if Jones has a claim against Brown because of malpractice, as professor of apiculture, it seems to me that it has nothing to do with the contract whatever. He should sue him for damages; but it is a separate deal altogether, as we see it. The division of the honey should be made, and probably has been made, and the question of the loss of the bees from malpractice is a different thing. If the bees died from starvation, I should think Jones would not

have much trouble in proving a claim, provided he knew nothing of the condition of the bees when they went into winter quarters, or was deceived in regard to it. But, on the other hand, if the bees did not die of starvation the chances are 999 out of 1000 that no malpractice on the part of Brown can be shown.

Michigan. C.

JAMES HEDDON.

At first the Rambler was inclined to say that Brown should stand all the loss, just to punish him for doing such a thing as to take bees on shares. But we think he has already received punishment in worry over the matter, so that he will never take any more bees on shares—eh, Brown? The Rambler would, however, say that, as there was no provision for such an emergency, and as Jones knew that such an emergency was liable to arise, we think that on Jones rests the most of the blame. As to the plea of carelessness, it seems that Jones just found out that point after the bees died. If Brown lost the bees through carelessness, then he must be careless upon other points, and must be well known as a careless man. Knowing this, why did Jones let his bees to Brown upon such loose terms? The Rambler would say that Jones must stand the loss.

New York. E.

RAMBLER.

I understand by the contract, that Jones's capital with the ordinary risks of deterioration in value of the same, is to balance Brown's skill and labor. I should think that loss from unavoidable causes should be at Jones's expense; all losses by Brown's mismanagement or neglect should be at Brown's expense. But without a knowledge of the cause of the death of the bees, I have nothing to base a decision on, which decision must rest on the facts of the cause of death. If the bees did not make honey enough during the season to keep them over, it should be the owner's loss. If they starved because the honey was taken from them, the apiarist should be the loser. If the bees died of dysentery or spring dwindling, I would exonerate the apiarist from almost all the loss, as, in my experience in wintering in Ohio and Iowa, I lost several apiaries almost entirely, with the best care I could give them. I think this is probably a case that would test two of the best men in the country to bear and forbear sufficiently to leave good feelings between both parties. It interests me to see them so generous as to leave the matter to disinterested and presumably intelligent bee-keepers.

California. S. W.

R. WILKIN.

Ah, here we are, a duly constituted court of equity. Looks as though we should need some depositions—and how about the fees? Assuming that the contract was for but one season, three cases arise: 1. Bees lost clearly without blame on Brown's part. 2. Bees lost, and the real cause of their dying doubtful. 3. Bees lost plainly by Brown's misdoing or neglect. If the evidence puts the matter as case 1, Brown, of course, goes clear. If the evidence puts the matter as case 2, I vote that Brown go clear. Most bees that die in winter (and they are myriads) die from causes not very clearly understood; and to hold the luckless wight who handled them last responsible is plainly absurd and unjust. As the case is stated to us, the indications are that this case 2 covers the matter. If the evidence puts the matter as case 3, I vote that investigation be made whether Jones might

not have saved his bees by a little inquiry as to their condition, such as he would naturally have made had they been sheep or pigs. I hold, that absurd and total indifference on his part should bar him from recovering of another man but little more guilty than himself. If the matter lies in case 3, and Jones has not shown culpable indifference to his own property, then I vote that Brown be held responsible to the following extent: He shall have the option of making good half the loss, or of taking a number of colonies of bees equal to the survivors, and building them up to an apiary equal to the one lost. If he chooses the latter he shall bear all expense and labor, and turn over all income, if any, to Jones.

Ohio. N. W.

E. E. HASTY.

Well, well, well! what an array of legal lore! When I began reading, I ran down the column to see how many lawyers we had on the list. Our friend George Grimm is the only one I recognize as such, and he says very briefly that the loss should be divided, as Prof. Cook suggests also, at the top of the list; and our good friend Wilkin winds up by an exhortation for each one of them to show forth the spirit of "in honor preferring one another." At the same time, however, there is a little bit of sarcasm in the closing sentence. I believe that, if I were so foolish as to go into the partnership business in keeping bees, as soon as I found myself in such a dilemma I would make haste to outdo my partner in generosity, even if it took more than the bees were worth, and then I would resolve to buy outright, when I wanted any such property in the future.

HEADS OF GRAIN

FROM DIFFERENT FIELDS.

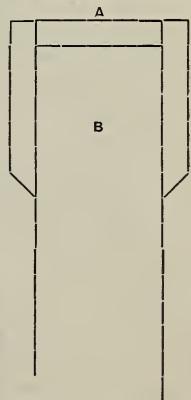
A SIMPLE WAY OF CONVERTING FRAMES ALREADY IN USE INTO HOFFMAN FRAMES.

In GLEANINGS, May 1, pp. 330 and 331, you illustrate and describe a plan by which the Hoffman frame can be simplified, and advise bee-keepers not to go too fast. As soon as I read it I thought of this plan, which I believe will just suit me exactly. I take $\frac{3}{8}$ stuff and cut it into strips as wide as the end-bar is thick, and 4 inches long, and nail them on the upper end of the end-bar, as represented in the inclosed drawing. A is the top-bar; B is the end-bar of a Langstroth frame. I use the Langstroth frame, top-bar one inch wide, and, after reading your foot-notes, I had 10 frames fixed up before supper. There may be some objections to this style, but they need not cost much on my plan. In hiving swarms they must certainly be real handy.

JOSEPH MASON.

Wallace, Ill., May 12, 1890.

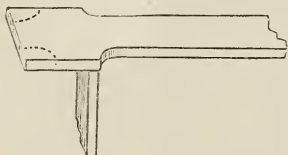
Your suggestion is capital, friend M. I do not know why I did not think of it before.



Yes, those of us who would like to test the Hoffman frame can easily do so by making a very slight change, in the manner you suggest, in the frames we already have in use. I hope that quite a number of our readers will try a few frames, and report. If they are not a success, the sooner we know it the better.

A PROJECTING TOP-BAR.

You ask for suggestions for spacer for frames. Make them like the top or bottom of sections. Cut out at the ends—at dotted lines if you want to. No staples, no nothing; a little more wood, that is all.



Perhaps you have thought of this a thousand times, as it is so simple. Perhaps it is like many other things—no good at all, and just a waste of postage to send it to you.—There is much good in GLEANINGS, even for those who do not keep bees.

Krumroy, O.

C. H. WELCH.

Yes, this sort of top-bar has been before suggested. The trouble with it evidently was, that the projections would not readily slide by each other. The modified Hoffman frame (see page 330) would be better, I think.

E. R.

SPRAYING FRUIT-TREES IN FULL BLOOM; IS THERE ANY LAW AGAINST, TO PROTECT BEE-KEEPERS?

I write to you to make the inquiry if there is any law in Ohio to protect the bee-keeper against the danger of spraying fruit-trees with poison when in full bloom. There is a neighbor here who has bought a "Perfection" pump to spray fruit-trees, and he says that it was recommended to him to spray in full bloom. If this is the case I think the manufacturers should be informed better. I had him read your article in April 1st GLEANINGS, and also the inclosed, from Chagrin Falls *Exponent*. Please reply in GLEANINGS.

Ford, O., May 19.

HENRY BOSWORTH.

The following is the clipping referred to:

Prof. Reefey, editor of the *Elyria Democrat*, who is good authority on such matters, has the following in his paper relative to spraying fruit-trees.

The codling moth and other insects have become so numerous in this locality that it is impossible to raise apples or other fruit that is not more or less injured by these pests. No good farmer thinks of raising a good crop of potatoes without using Paris green or London purple on the vines, to destroy the beetles.

Mix one-fourth of a pound of London purple with forty gallons of water, and spray the trees soon after the bloom drops off, when the apples are about the size of peas. Should a washing rain follow soon after, the spraying should be repeated.

Paris green may be used in the same proportion, but it is more liable to injure the trees. In either case, the poison should be well mixed by stirring.

Let a number of farmers in a neighborhood buy a force pump and hose, with spraying nozzle, and mount it on a frame on a wagon so that a barrel with the solution can be placed under it. There are force pumps in the market especially adapted to this purpose.

For spraying on a small scale, a hand pump and a bucket are sufficient. A small hand pump will cost about a dollar.

Remember that the solution is a poison, and must be carefully handled, and don't let your stock feed on the grass under the trees shortly after spraying.

Finally, experience has proved that it pays to spray apple, pear, plum, and cherry trees, and that it is perfectly safe to do so.

Friend B., there is no special law that will touch the matter you mention; yet there are very plain laws forbidding one neighbor to poison the stock belonging to another; and I am pretty certain that one has no right to poison even trespassing stock. In this case it can be proven. I think, that there is no need at all of spraying the blossoms while the bees are at work. Will some of our bee-keeping lawyers enlighten us a little? If the matter is going to be complicated, perhaps we had better leave it with the Bee-keepers' Union.

WIRING FRAMES WITH FOULTRY NETTING.

In GLEANINGS, May 1, there is quite a discussion about the proper mode of wiring frames; and I see Mr. Gemmell is in difficulty about his wiring. Allow me to suggest a remedy, although I do not use or believe I need wired frames. Why not put in your finest wire poultry netting? You see, by this plan you get both horizontal and perpendicular wires, or you can have all diagonal. It would be strong enough either way. If you do not care about trying it yourself, you might ask Mr. Gemmell to try it, and let me know the result the next time I see him.

Bees have generally wintered well here, owing to the mild winter. I winter mine in the cellar. I omitted removing entrance-blocks from a strong swarm in an 8-frame L. hive, but they squeezed one end of one block out so that one bee could crawl out at a time over the end of the block. The top was tightly sealed, but they came out all right.

Kintore, Ont., May 10, 1890.

J. W. WHEALY.

Poultry netting is not made of small enough wire to be used in wiring frames; and even if it were, there would be no feasible method of fastening it inside of the frames, to say nothing of the difficulty of imbedding the meshes in the foundation.

NOT IN FAVOR OF THICK TOP-BARS.

I would not have a top-bar in my hives that is over $\frac{3}{4}$ thick. Tuck and staple spacing would not suit me, as that would be a hindrance to handling frames. I have 30 stands of bees. I run my bees mostly for comb honey. I have never used a zinc honey-board in the ten years I have kept bees, and would not have one. I space my frames $1\frac{1}{2}$ inches from center to center, putting in the number of frames desired. If that does not fill the body of the hive, I fill the space left with a division-board, then between the lower and upper story I am very exact in leaving just $\frac{1}{8}$ of an inch, and am not bothered with brace-combs nor queens going above.

I went into winter with 30 colonies on their summer stands, mostly in chaff hives, in fair condition. I have 30 at this writing, in good condition for surplus. I use a topless frame holding four sections, such as I buy of you, and I like them very much.

Akron, O., May 13.

AMOS E. GRIFFETH.

The majority of those who have reported in regard to thick and thin top bars would not agree with you. We can not prevent brace-combs with $\frac{3}{8}$ -in. top-bar above, and we live only 20 miles from your locality. We

are glad to get your testimony in regard to section-holders.

THE MELTED-WAX PLAN OF PUTTING IN STARTERS; 25 TO THE MINUTE, AND 1200 PER HOUR.

I notice in GLEANINGS of May 1, a letter from Dr. C. C. Miller, giving his way of putting in starters. He says he can put in four starters a minute, and Emma can put in 14. I will give you my way of putting them in. I use a small iron pan, with a bottom about 5 in. across, and put enough wax in to cover the bottom about $\frac{1}{4}$ inch. I place the pan on the stove and let the wax melt. I take a board one foot wide and 18 in. long, and sit down close enough to the stove so that I can reach the pan conveniently, and put my sections on a pile (starter side) on the board, and the starters also. I put the board on my lap with starters next to me. I dip the edge of the starters into the hot wax, and then place it on my sections. The first minute I tried it I put on 20 starters; the next minute, I put on 25. I can put on 1200 in one hour, without any extra effort. I have a little girl and boy that lay them away after I get them on. I do not put the sections together until after the starters are on.

Muncy Sta., Pa., May 8.

R. I. CROMLEY.

THE HOFFMAN FRAME, AGAIN.

I notice you inquire in GLEANINGS for May 1 "if there is any one else among your readers who has tried the Hoffman frame." I have used this frame for the past six years, and I find it far superior to any other frame, and I agree with Mr. Beebe in all the points he makes in regard to them.

My frames are the Langstroth size, with top-bars $1\frac{3}{8}$ in. wide at the ends, and notched out $\frac{1}{8}$ in. on each side between the end-bars, making them $1\frac{1}{8}$ in. wide over the combs, so that, when they are placed in the hive, there is $\frac{1}{8}$ in. space between the top-bars, to allow bees to enter the super. For supers I use the T super with $\frac{1}{2}$ -in. bee-space at the bottom, and place the supers directly upon the frames. No honey-board is required with this frame if the super has a bee-space at the bottom, as the top-bars act the same as a honey-board. This I deem a big point in their favor. I produce comb honey exclusively, and in my six years' experience with this frame, without honey-boards, I have had but one section in which brood was placed. When I first began to use this frame I had top-bars $\frac{3}{8}$ in. thick; but I found the weight of the combs caused some of the frames to sag. I also noticed that, where the frames sagged, there were brace-combs built; and where the frames did not sag there were hardly any brace-combs. I then changed from the $\frac{3}{8}$ -in. to $\frac{1}{2}$ -in. top-bars; then the result was, there was no more sagging of frames, and almost no brace-combs.

LOUIS ANDERSON.

Bloomsbury, N. J., May 6, 1890.

Your testimony is valuable, and the more so, as it substantiates what others have said. So you can use T supers on these frames without a honey-board. That's good. Who else has tried these frames?

NO LOSS ON SUMMER STANDS.

I have to report 54 colonies in the fall, and 54 spring count. How is that for outdoor wintering in ordinary box-frame hives, and just as they stood on their summer stands, and, with one single exception, in good condition?

My bees have had so far too much honey from

last year to raise enough brood. That is not room enough; nevertheless, the late, cold, and wet spring will give them ample time to use it all up before they get much from the fields. White clover is blooming earlier than common, with prospects good, when the weather settles. We had a light frost last Sunday and Monday morning, with heavy rains yesterday and to-day.

FRANKLIN GARNES.

Kenna, W. Va., May 14, 1890.

AGAINST SELLING ON COMMISSION.

If the bee-keepers do not adopt some other method of selling their honey than sending it to commission men and letting them sell it for what the grocery men want to give, they might just as well let their bees all die or kill them. As fine comb honey as you ever saw, linden, white as snow, put up in 2 lb. frames, sold last February for 8 c. per lb.; taking out freight and commission, netting the bee-keeper $5\frac{1}{2}$ cts. per pound. If the commission man had been instructed to sell it for $12\frac{1}{2}$ it would have brought it. As soon as I can get time I will give the readers of GLEANINGS my method of selling honey, and how to get a good price for it, as I have always sold my own honey for the last forty years, and expect to if I live forty more.

WM. URIE.

Minneapolis, Minn., April 28, 1890.

FROM 55 TO 115, AND 2700 LBS. OF HONEY, WITH A LOSS OF BUT TWO.

I started in the spring of 1889 with 55 colonies, with quite a per cent of them very weak. I increased to 115, principally by natural swarming. I obtained 2700 lbs. of honey, 2000 lbs. comb, and 700 lbs. extracted, all very nice white-clover honey, for which I realized from 15 to 20 cts. for comb, and 15 for extracted, wholesale. I started into the winter of 1889 with 115 colonies, with natural stores, no feeding, and came through with 115 up to March. I lost two in March, and two more proved to be queenless; the rest are in good shape, with a prospect of a good season in view. I wintered all on their summer stands, with sawdust cushions over brood-frames, in improved Mitchell hives, double-walled.

S. R. MORRIS.

Bloomington, O., May 10, 1890.

HOW AN UNTESTED QUEEN AND 1 LB. OF BEES DID.

I ordered 1 lb. of Italians, and an untested queen; but through your kindness you sent 2 lbs. of bees and a queen. As I told you in a letter, I put the 2 lbs. of bees into the hive in the greatest hurry, not thinking that, right after destroying the black queen, the blacks might destroy the new queen; and as it came to my mind that might be the case, I let the white sheet lie before the hive for about three days, to take a look every morning to find the dead queen dragged out of the hive, but could find no dead queen, so I did think all right.

By this time, and several weeks ago, I could see the young yellow-striped bees come out to try their wings for the first time in the nicest way. So I have turned the black cross colony into the most beautiful Italians.

The 1 lb. of bees and Italian queen I got of you last June are now a strong colony.

JOHN SLAUBAUGH.

Eglen, W. Va., May, 1890.

PROSPECT VERY POOR FOR HONEY SO FAR.

There are no material signs of swarming, and white clover is just beginning to bloom. It is still very cold, and we have had four frosts this month.

Yesterday, the 15th, was so cold that bees did not fly much. Bees are mostly in light condition. So far they have wintered well, but spring weather is very cold.

WM. ST. MARTZ.

Moonshine, Ill., May 16.

HORIZONTAL WIRING; NO SAGGING OR BOWING OF COMBS.

I have been reading GLEANINGS with interest, and I have seen a great deal said about wiring—which is the best way—and I should like to say that I have been using the horizontal wires for about ten years, and most of the time only two wires; but I prefer it three wires, and I never have had any trouble with foundation sagging or bulging out. I think that the greatest trouble with foundation sagging is that the wires are not stretched tight enough. If the wire sags, the foundation must. As for tin bars, I have never used any. I have had no use for them; and as far as I can see, they are a bungling affair. I use the L. frame, and prefer it to any other that I have used.

MY HONEY CROP FOR 1889.

Comb honey, 1000 lbs.; 500 extracted. I commenced in spring with 30 colonies; increased to 45.

Fremont, Mich., May 16.

SAMUEL BOYD.

BACKWARD WEATHER.

You will see by my report that we have lost pretty heavily in bees. These have mostly died during the last two months; and although we have been feeding some we did not watch them closely enough. It was warm here the greater part of the winter until February, causing the bees to fly a good deal, and consume considerable honey. For the last four or six weeks we have been having almost continual cold rains, which keep the bees confined to the hives when they should be gathering honey. A little more attention and feeding would have saved some that we have lost; but we dislike to inaugurate a regular system of feeding, and have been in hopes of sunshine. However, the most of our colonies are in fair to good condition; and the prospects for a big crop of honey are good, provided we get clear weather soon, as the white clover is in better condition than it has been for years past.

S. E. MILLER.

Bluffton, Mo., May 18.

SELLING EXTRACTED HONEY; CANDYING A BAD FEATURE.

I have been selling honey in connection with maple sugar and syrup for six years, doing a successful business all through New England, but principally in Massachusetts. When I first commenced in the business I bought pure white-clover extracted honey; but experience soon taught me that white-clover honey would not hold trade, as it would soon become candied; and when I went around the next time I was politely informed that they did not care to buy brown sugar and pay a honey price. I would tell them that it was sometimes due to the action of the atmosphere, but I suppose they thought it was due more to my action than that of the atmosphere.

I saw I must make a change if I held my trade. I tried some orange-bloom honey, shipped from Florida, and found it to be the best yet. I have sold it for four years now, and where I sell it once I sell again. It will retain its liquid form two years or more. If we could only keep our white-clover extracted honey from becoming candied it would give

general satisfaction; but until then the public will persist in saying they "knew it is more'n half sugar."

E. U. FOSTER.

Waterbury Center, Vt., May 6, 1890.

NO LOSS IN WINTERING, AND PROSPECTS FLATTERING.

The outlook for bees in this locality is very flattering. Colonies are all strong, and all I have heard from have wintered well. I wintered 50 colonies on their summer stands, and did not lose one. All of them are as strong as they were last year the 12th of June. On the 14th of this month I had a new swarm. It was caused by feeding. There was little but willow in bloom at the time. It was never known to occur in this locality before.

Myrtle, Pa., May 19.

E. A. PRATT.

DECOY HIVES, AND THE LAW CONCERNING.

It is my mind that this law was framed by bee-hunters, and presented to our legislature without consulting the bee-keepers. The law should be repealed, for, as I understand it, it does not even allow us to have an empty hive in our apiaries. I claim we should have the right to decoy our own bees as much as we can. Hunters and sportsmen have caused many laws to be made to the farmer's sorrow. Now, why not put this to vote, and see how many are in favor of repealing this law? I say, repeal it.

E. S. ANDRUS.

Torrington, Conn., May 21.

VERY DRY.

The prospects are very poor for a good yield of honey. It has been so dry that there is no white clover, and it has been very cold since May came in. It is still cold, with hard frost at night, with frequent snowstorms. All fruit will be killed, and the bees have not worked a single day on fruit-bloom.

Minneapolis, Minn., May 20.

WM. URIE.

SWARMING, AND LOTS OF WHITE CLOVER.

Bees commenced swarming on the 1st of May. Swarming is a month late. I have hived 15 swarms so far. I never saw so much white clover. Bees are working with a rush. I never saw such a large swarm. Your paper is just right for twice a month.

G. B. CARTMELL.

Jackson, Tenn., May 19.

UNJUST DISCRIMINATION BETWEEN HONEY AND FISH IN FREIGHT RATES.

I should like to say, "Honey in Pails" is double first-class, while fish in the same kind of pails is fourth-class. This hurts me badly, for I have worked up a market for honey in 20-lb. wooden pails. It ought not to cost more to ship extracted honey in large wooden pails than comb honey in glass boxes.

F. WILCOX.

Friend W., there are several reasons why railroads charge more for honey than for fish. The first is the value. If they spill or damage a pail of fish, it does not amount to very much compared with a pail of honey. Another thing, I suppose the reason why honey in wooden pails is rated higher than honey in boxes is because of the liability of being tipped over and spilled. If honey is put into pails having an absolutely tight cover, say something like syrup-cans, so they will not leak any side up, it should go at as low a rate of freight as any thing else put up in similar tin cans—that is, where the value is about the same as the value of

honey. Liquid paint, for instance, is a very large article of traffic, and it is put up both in tin pails and wooden kegs, and, if I am correct, honey can be shipped about as cheaply as paint. Very likely, however, the matter needs looking after.

MYSELF AND MY NEIGHBORS.

O thou of little faith! wherefore didst thou doubt?
—MATT. 14: 31.

THERE are in this world lovable people, or, if you choose, lovable neighbors. There are also neighbors—just a few of them—who are *not* lovable. It is our duty to love them, nevertheless; for Jesus said, "Love ye your enemies." Doubtless most of you know people whose very presence seems to bring something pleasant and cheering. Every word they speak indicates faith, energy, go-ahead, and hopefulness. Some *writers* have a faculty of making their words so attractive that we like to read them and dwell on them. Their bright expressions we like to read over and over again. Well, of late I have been enjoying myself by reading over and over the words and expressions of Christ Jesus; and the more I read them, the more I love them. I am not a great *reader* of the Bible, and I doubt whether anybody ever sees me reading it more than a few minutes at a time. Sometimes I read a chapter, but not often more than that at once. It used to trouble me somewhat because I did not like to read the Bible as some do. It is too much for me; that is, to read very much of it all at once. A verse or a part of a verse seems to be all I can manage or comprehend at one time; and sometimes a little bit of verse will last me several days. The more I dwell on it and think about it—the more I repeat it over and over—the more it becomes music to my soul. And especially do I delight in making it fit into the subject of conversation that is going on about me. One of the brightest little texts I ever got hold of is the one about which I am writing: "O thou of little faith! wherefore didst thou doubt?" Matthew, Mark, and John, tell us the little story about Jesus walking on the water. After feeding the five thousand, Jesus saw fit to tell his little band to get into a boat and cross the sea alone. He dispersed the multitudes, and sent his followers away, and then he went up into a mountain to pray. He told the little band to go to some point on the other side of the sea, or lake. The distance was so great, however, that they did not reach their destination before morning. Late in the night they had a contrary wind, and the little boat was tossed by the waves. By and by somebody was discerned in the darkness, walking on the water. No wonder they were afraid, and supposed it was a spirit, or something supernatural. They forgot all about the miracle of the loaves and fishes, and of the Lord and Master who was away, they knew not where. But he, in his loving kindness, very soon dispelled their fears and bade them "be of good cheer;" and then he added,

"'Tis I; be not afraid." We can well imagine the relief they felt. Perhaps, notwithstanding his cheering words, however, they felt a little uneasy still. Our bold and impulsive friend Peter, however, was the first to recover, and grasp hold of the fact that there could be no *possible* danger while the Master was near. With his reckless daring and ready response he burst out with the words, "Lord, if it be indeed thou, bid me come unto thee on the water." I can imagine that the other eleven looked at him in open-mouthed wonder and surprise. Did anybody ever hear of such assurance? Perhaps not. But the Master was pleased. Why? Because it indicated faith—faith in his Lord; and if any thing ever pleased Jesus, and made him smile, it was perfect, unreserved confidence, not only in his *wondrous power*, but in his *loving kindness*. He replied, as you, my friend, may have said to one of the little ones of your household—one that is just learning to walk, for instance. We do not know whether the Master put out his hands to him or not; but he gave his permission, and encouraged him in the same simple word, "Come!" Most of us would have been very apt to back out, even then. Not so with Peter. Over the side of the boat he went, in a twinkling. Out upon the water he stepped with perfect faith, and safely stood and walked upon the yielding element. Had Peter's *faith* remained perfect, his *walk* would have remained safe and perfect also. But the wind was still boisterous; the waves were rolling and tumbling. Very likely he got dizzy, and then began to be afraid. He started out well, but he lacked *enduring* faith. He began to sink. He did not, however, turn back and grapple for the boat. We know he was a good swimmer, for on one other occasion he jumped out of the boat, and swam ashore to meet the Master. But he did not trust to his skill in swimming, on this occasion. As he began to go down in the water, we may suppose that he raised his hands imploringly toward the Master as he said, "Lord, save me." I wonder if it is not possible that Jesus smiled as he saw his fright. How often have I laughed outright in great merriment to see the little ones of our household, when I was giving them their first lessons in walking, become affrighted when there was nothing to fear!

Jesus was near enough so he actually reached out his hand and caught him. And then comes that bright, glorious, hopeful, happy, beautiful speech, the text I have said over and over so many times, and yet never tire of repeating: "O thou of little faith! wherefore didst thou doubt?" May I take the liberty of paraphrasing it a little? Didn't his Lord mean, even if he did not say, "Why, Peter, I am surprised at you. How couldst thou fear when thy Master was so near by? Why should my good friend Peter, who started out so well, so full of faith and ambition, and so full of perfect trust and confidence, become demoralized and affrighted simply because the winds and the waves were boisterous? Didst thou forget that, at my command, the winds and waves obeyed?" And that one word,

"wherefore," like a beautiful bar in a strain of music, as I repeat the text over and over, comes with wonderful beauty and power. It seems to say, "Where, in all your experience with me, have you found reason to be afraid? Have I ever failed, or have I ever been mistaken? Did you ever know me to call upon the elements of nature when they were not obedient to me? Where in all our past pleasant intercourse and acquaintanceship did you all together have reason for doubt or fear? Can you not trust me, my good, faithful, and devoted friend Peter? Can you not trust *me*?" Matthew tells us no more, but only adds that, when they were come into the ship, the wind ceased, and together they united in worship, saying, "Of a truth, thou art the Son of God." They soon landed, and then commenced the busy life again. When the men of that place had knowledge of him, they sent into all the country round about, and brought the sick and the diseased. And now we are told that they begged only for the privilege of touching the hem of his garment; and as many as even *touched* him were made whole.

And now, dear friends, is there not a practical application for us? Is not the great trouble, and the great lack of all humanity, in the same line of thought of Peter—"O thou of little faith"? Is not that *your* trouble, dear reader? It surely is *mine*. Jesus is near, and ready to help. And not one of us in all our past experience can say that we have trusted him in vain. A new railroad is coming through our town. Crowds of new people are already camping in the suburbs. At the dinner-table some one expressed a fear that this new element coming into our midst would be demoralizing to our community. I knew as well as they that there was *danger* in this direction; but yet, if it is Christ Jesus that we are trusting, have we anything to fear? I smiled as I commenced my little text, "O thou of little faith! wherefore didst thou doubt?" A few weeks ago two good friends of mine had trouble. They are both professing Christians, but they talked hard, and I fear they did some things besides talking. With all my busy cares I felt a responsibility laid upon me. I must go to each of them—perhaps get them both together, and may be plead in *rain* for Christ Jesus the Savior. I feared it would not do any good. As we knelt at our bedside at night, I prayed earnestly that God would put it into their hearts to consider how wrong it was for them to cherish such feelings toward each other. I prayed that they might *each* feel moved to ask forgiveness of the other. What did I do next morning? Why, I went to one of them with a very sober, downcast face, and with a trembling voice commenced my task. To my surprise he laughed outright as he put his hand on my shoulder, and said, "Why, Bro. Root, we knew as well as you do that we were out of place as Christians, and we have made it all up, and fixed the things that made the trouble, so I think I can assure you it will never happen again." I opened my mouth in astonishment as my face softened into a smile, as I realized that

I was relieved in this unpleasant task. *Then* I remembered the prayer of the night before, and the text stood out strong and clear before me—"O thou of little faith! After your earnest prayer last night, *wherefore didst thou doubt?*" As I look back and see the victories that have come from prayer, and the obstacles that have been overcome ever since I chose Christ Jesus as my guide, then it comes again, as I look in open-mouthed astonishment, and see what changes have been wrought through the name of Christ Jesus; and I say to myself fondly, "Wherefore! wherefore! *wherefore!* didst thou doubt?" A few weeks ago I stood on the brink of danger. I seemed, for the time being, changed over; some evil spirit had got a hold upon me. I once heard of a man who felt sure he could keep sober if he kept off from a certain street. On that street was a saloon that he knew from sad experience he was not capable of passing by. The tempter was too strong for him, if he even passed before the door. He avoided that street, and passed around, even though it cost him considerable additional travel when he was tired out and weary. But it was the safer way. And yet it was very *hard* to keep away from that street. Although he knew from past experience that it was dangerous, still he could hardly keep away from it. I think he was wise in doing so. I have been through a similar siege with the tempter. For many weeks, in my want of faith I rather concluded that the rest of my life would have to be passed in just that way—wearing myself out with *useless travel* just to keep out of *Satan's* way. When it occurred to me, however, to reach out in utter helplessness, as did Peter, saying, "Lord, save, I am utterly discouraged in trying to save myself, and have lost hope; save me or I perish"—when I got right *there*, like a flash of light the tempter, with all his machinery, gathered himself up and departed. There are no saloons at all now on that dangerous street; in fact, *there is no such street*. The shackles have fallen, and I smile to think of them now. The whole trouble was little faith. It was in Doubting Castle that I was imprisoned, and the key of promise was hidden in my bosom, *unused* because I *forgot I had it*. Years ago, when I knelt down by myself and uttered that first prayer to my Maker, "O God, if there be a God that cares for a poor helpless child to whom he has seen fit to give a place in this great universe, help me if thou carest for me"—when I uttered that prayer I could scarcely comprehend that Jesus could or would help one who did not help himself any better than I had been doing. I knew I was *bad* and *wicked*, but I had got it into my head and heart, that, *before* one prayed he must be *good*. I could not comprehend that there was any possible help for one who kept slipping back and yielding to temptation. When help came, and I felt a strong arm round about me, I was utterly astonished. It was a new experience, and a revelation too. And, dear friends, this experience and this revelation continually come up; and as I am helped out of one piece of miry

clay after another, I am astonished again. My faith seems to be continually settling back, notwithstanding all these victories. And this is why I so cling and hold on to this beautiful, bright little text of mine—"O thou of little faith! wherefore didst thou doubt?" And now, dear friends, in all this talk—in fact, in most of my talk for months back, I have been trying to impress the thought that there is help for *sinners*; there is help through Christ Jesus for those who feel themselves to be *helpless* sinners. A letter just at hand illustrates more fully what I mean. It comes from away down in Texas; but notwithstanding, it echoes the thought of many other poor souls scattered far and wide throughout the world. Please read:

Mr. Root:—I used to keep bees, and was once a reader of GLEANINGS. I was a good man once; but since my wife died I have become a drunkard. I have made promises, and broken them, until I don't believe the *Christians* here have faith enough in me to even pray for me; and the *sinners* don't like me now as they did when I had money to spend with them for whisky. I have a good old Christian mother, and I write to beg you to *help* her pray for me. I am a young man yet. I think there is still hope for me. By the help of God I won't touch any more whisky. Please pray for me. I would not write you this way, but I believe you are a good Christian.

Texas, May 13.

I want to say, first, that my recent experiences have prepared me to have more charity for those like the writer of the above than I have ever had before. Our poor friend has written to me when utterly discouraged. We judge from his letter that he is almost on the point of giving up. There is something almost plaintive in his honest, frank confession. He does not beat about the bush, nor use polite words to tell the truth as it is. He says, "I have become a *drunkard*." Why, the very word sends a chill through one's veins. Of late it has become so customary to use some softer or more polite word, that we are startled when a poor sinner uses the term "drunkard." And he says, further, that he has made so many promises only to be broken that he hardly believes that the *Christians* around there have faith enough to pray for him. His money has gone, and his *companions* who are, like himself, *sinners*, are gone also. He is alone, and clear down to the bottom, probably. There is one poor soul, however, who still hopes and prays—an old Christian mother. But even her prayers, and thoughts of that pious mother, have so far been of little or no avail. He remembers his bee-journal and the Home Papers; and, as a last hope, he writes to me, begging a favor. The favor is, that I shall help this poor old mother *pray*. Oh how I wish I could be by her side for just a little while! How I should like to hear her tell me the sad story of her lost boy! "Lord, help!" wells up in my heart as I read the words. "Lord, help this poor soul struggling in helpless bondage. Help him as thou didst help me when I was a slave and in fetters. Help all who are in the fetters

of sin; and, O Lord, hear this poor old mother's prayers, and help our poor friend in his *utter* helplessness. May he look up to thee, as did poor Peter when he said, 'Lord, save me.'"

Dear friends, I do not mean to say that Christ Jesus will or can help unless we come to him. You will remember that, in his own village of Nazareth, none were healed. The reason was, that nobody came to him asking to be healed. They hadn't even faith enough to *come*. And it is so with us. We must come to him. "Him that *cometh* to me I will in nowise cast out." If the writer of the above letter were invited to come to Jesus, and should refuse, and make excuses, there would be no help. If, however, in his utter discouragement and despair, he should come, saying, "Lord, help, for I have nowhere else to go," salvation is sure—that is, providing he holds to that attitude. Should he change his mood and reject the Savior, he is lost. "He that *believeth* on the Son hath everlasting life." Now, it is not enough to *say* that we believe. Words are well, but they must be the expression of the heart. What must the sinner do? He must from the heart say, "Lord, help," at every turn. When tried and sorely tempted he must from the bottom of his heart keep calling and begging for help. So long as he does this with an honest sincerity of purpose, and with an abiding faith, he is safe; and in a very little time he will come to look back, and smile to think of how little he could comprehend or understand what Jesus can and will do for those who trust him. He will smile as the wondrous truth bursts in upon him in the light of the beautiful words of my little text. I say *my* little text, for I have been making it mine; but, dearly beloved reader, let me give it to *you*. that *you* may make it *yours*: "O thou of little faith! wherefore didst thou doubt?"

TOBACCO COLUMN.

CONDITIONS UNDER WHICH WE GIVE SMOKERS TO PERSONS WHO STOP USING TOBACCO.

First, the candidate must be one of those who have given up tobacco in consequence of what he has seen and read in this department. Second, he promises to pay for the smoker should he ever resume the use of tobacco in any form, after receiving the smoker. Third, he must be a subscriber to GLEANINGS. Any subscriber may, however, have smokers sent to neighbors or personal acquaintances whom he has labored with on the matter of tobacco-using, providing he gives his pledge that, if the one who receives the smoker ever uses tobacco again, he (the subscriber) will pay for the smoker. The one who receives the smoker in this case need not be a subscriber to GLEANINGS, though we greatly prefer that he be one, because we think he would be strengthened by reading the testimonials from time to time in regard to this matter. The full name and address of every one who makes the promise must be furnished for publication.

REDEEMED FROM BONDAGE.

I have been a slave to the filthy habit for about 25 years. One year ago last November I quit chewing and went to smoking, and the latter was the worse of the two habits. Last August I attended a revival meeting, and became deeply convicted of my sins, especially in regard to the way I was raising my family, and the example I was setting before my boys (I was a backslider). I resolved to "return to my father's house" again, and seek salvation. Oh the joy and comfort it gives one to

know that he is freed from sin and evil habits! I smoked but once after I was converted. The second time I filled my pipe I was condemned, and those words came into my mind, "Cleanse yourselves from all filthiness of the flesh." Pipe, tobacco, and all went into the stove; and, God being my helper, I will never be found guilty of the habit again. About that time my wife was reading GLEANINGS, and she said, "Listen; A. I. Root offers to give a smoker to any one who will quit the use of tobacco." I said, "Amen! I want to sign a pledge of that kind. I want the world to know that God has power on earth to cleanse his children from all unrighteousness, if we only put our trust in him." Go on, Bro. Root, sowing seeds of righteousness. May God bless you, is my prayer. My wife says, if I ever commence the use of tobacco she will send you the price of the smoker.

Glenwood, Iowa.

DANIEL BARBEE.

May God be praised, friend B., for your bright, clear, unconditional surrender; and especially do I commend your willingness to stand out before the world, making your retreat so sure that you can not go back, even if you would. And I am glad, too, to hear the good wife say that, if you ever begin the use of tobacco again, she will report, even if you should backslide so far as to incline to neglect it.

A MINISTER OF THE GOSPEL WHO IS KILLING HIMSELF WITH TOBACCO.

We have a minister here who is a member of our conference, and who is killing himself by smoking tobacco. We are taking pledges from him to quit; and as we all read (my) GLEANINGS, your most excellent magazine, and among them the pledges, I promise to send you the price of a smoker if he returns to it again. Send it to my address at once, and I will deliver it.

M. K. LITTLE.

Fort Worth, Texas, March 2.

WHAT A LAWYER THINKS OF TOBACCO.

I have induced my boy, Wm. Lucas Dillard, to quit the use of tobacco, offering, as an incentive, your offer of a smoker. I tell him that, if a stranger, who perhaps will never meet him this side of the ultimate tribunal, can so deeply feel for the follies of youth, there must be something vitally and radically wrong in the abominable practice of tobacco chewing and smoking. My boy has a manly sense of duty; and if he puts himself voluntarily under obligations to do something, I'm sure nothing will divert him.

H. M. DILLARD.

Meridian, Texas, May 6.

GOING SECURITY.

There is a young man, a neighbor of mine, who is reading my GLEANINGS. He keeps bees, and says that, if I will get him a smoker, he will dispense with tobacco entirely. Send the smoker; and if he ever uses the weed again I will pay for the smoker. His name is Burt Jenkins.

F. H. KUNKLE.

Camden, Mich., April 30.

TAKING THE PLEDGE AFTER HE HAS STOPPED A MONTH.

Please send a smoker to A. J. Foster, Winthrop, Iowa. I will pay for the smoker if he ever smokes again. He has stopped smoking now for a month. Of course, Mr. Foster understands that he is never to use tobacco in any form, and this is right.

Winthrop, Iowa, Mar. 24.

E. P. BRINTNALL.

A HUSBAND WHO HAS QUIT.

M. C. Hays has quit the use of Tobacco. You will please send him a smoker. If he ever resumes the use of tobacco, he promises to pay for the smoker.

MRS. M. C. HAYS.

Temperance Hall, Tenn., Apr. 21.

SECURITY FOR ANOTHER.

A friend of mine has promised to stop using tobacco if you will send him a smoker. If you will send one, and he ever uses tobacco again, I will pay for the smoker. I never used tobacco, and I thank God that I never formed that habit.

McKean, Pa., Apr. 4.

D. E. PORTER.

YOUNG MEN TAKING WARNING IN TIME.

I take pleasure in reading your Tobacco Column. It is gratifying to see so many young men take warning while on life's meridian. Mr. L. W. McGuire has broken from the useless tobacco habit for seven months, and desires a smoker. He pledges that, if he ever uses any again, he will pay for the smoker.

G. W. MCGUIRE.

Dark Ridge, N. C., Mar. 14.

A BOY WHO HAS FOUND A BETTER USE FOR HIS MONEY.

I am a boy 17 years old. I have been in the habit of using tobacco some, but am trying to live a Christian. I have concluded to do without it, and that I can put my money to better use, and feel better over it. Please send me the smoker; and if I should use tobacco any more, I will pay you for the smoker.

BERTIE S. EVANS.

Mendon, Mich., May 9.

QUIT AFTER 12 YEARS.

I have received GLEANINGS 7 years, and have concluded to quit the use of tobacco. I have used it twelve years. If I am entitled to a smoker, please send with other goods. If I use the weed again I will pay for smoker.

J. H. KLINE.

Wooster, O., Apr. 18.

IS INDUCED TO TAKE THE PLEDGE THROUGH THE INFLUENCE OF THE TOBACCO COLUMN.

Through the influence of the Tobacco Column I have made up my mind to quit the use of tobacco. I have used it for five years off and on. You can send me a smoker, and if I should resume the use of it again I will pay for the smoker.

Wayville, N. Y., Mar. 26.

O. C. ABEL.

A FRIEND GOING SECURITY.

Please to send me a smoker. I have a friend, D. F. Stewart, who has quit the use of tobacco, and agrees that, if he uses it again in any manner whatever, he will pay you the sum of \$1.00 for the smoker, God being his helper to enable him to quit using the weed. And I promise to see that he fulfills his contract.

G. F. TYLER.

Honey Grove, Tex., Apr. 25.

TWO PLEDGES.

In reading GLEANINGS I feel as if we were old acquaintances, and without it we should be lost. I hope that it will be weekly soon. I promised an old uncle of ours that, if he would quit chewing tobacco, I would get him a smoker; so he quit on the first day of this year, and says he will never use it again. If he breaks over I will pay for the smoker. His address is V. B. Lindsay, Nebraska, O. I have taken the pledge too; and if I ever break it I will pay double price for it.

J. N. RILEY.

Washington C. H., Ohio, Mar. 5.

The Tobacco Column for this issue, as the friends will observe, is, a great part of it, going security for some friend or relative; and this is exactly what we want. In fact, I should much prefer having the pledges given in this way. We wish the one who pledges himself, however, to be a subscriber to GLEANINGS. The one who gives up using tobacco need not necessarily be a subscriber himself. In all cases, however, his own good will depend very much on GLEANINGS being well circulated in his own neighborhood. The second one who takes the pledge is a minister of the gospel. One of his people agrees to deliver the smoker, and be responsible. May the Lord bless and strengthen this minister.

EDITORIAL.

Lord, save us: we perish.—MATT. 8:25.

WE have at this date 9931 subscribers.

CONVERTING COMMON FRAMES INTO HOFFMAN FRAMES.

ON page 425 Ernest speaks of this arrangement as if it were new. It is new to him, but the same thing was recommended and tried before GLEANINGS had an existence. It was given in the *American Bee Journal*; but I believe that those who tried it afterward pried off the strips and threw them away. Present needs, however, may make a difference.

BEE-CRADLES.

SOME years ago, before our present proof-reader and translator was here, we received a letter from a friend in Germany. As it was written in the language of that country, we sent it to a linguist to translate. It so happened that the translation came back with the word "bee-cradle." It was very easy for us to guess that, instead of bee-cradle, our German friend meant "queen-cell." We had forgotten all about the circumstance until we just received a letter written by a German friend in Missouri, he writing in French. Being more or less familiar with the German idiom, he sent an order for a lot of "bee-cradles," as large as a certain piece of paper. Our proof-reader studied all the way to dinner and back again as to what "artificial cradles" might mean, as he had never used any other, and yet he had never seen Mr. Warner making any in the saw-room. Finally the incident related above came to his mind, and he then concluded that our friend wanted *foundation*. This shows the difficulty in translating the technical meaning of a word when it is used in its common acceptation. Quite likely many passages in the Bible which seem so incomprehensible are owing to the fact that the translators spoke of "cradles" when "honey-comb" was meant.

SELLING SECRETS FOR MONEY.

A GREAT number of communications have been received in regard to the revival of the water-cure treatment. We have space for only two of them, and I wish to give these two because they illustrate so forcibly how it is that good earnest Christian

people may differ so widely in opinion. Here is the first:

FRIEND ROOT:—In my last GLEANINGS I see an article by you about A. Wilford Hall's great discovery. The true Christian, like his Master, is ever ready to help all of God's children in every way in his power. I know some, like yourself, who have signed the pledge very reluctantly, and some who said they could never sign it, though it should be the means of saving their lives, if they could not impart to others that which has been a blessing to them.

Yours in the cause of blessings for the world.

Sulphur Grove, O., May 20.

S. J. ARNOLD.

Thank you, friend A., for your very kind words. I think we all agree with you, at least in the main.

The next is from one of those very ministers of the gospel who have given their names to Dr. Hall, to help him advertise:

BRO. ROOT:—I received GLEANINGS to-day, and was surprised to see an article in reference to Dr. A. Wilford Hall's remedy for curing disease without medicine. What hurt me all over, and down in my soul, was that you say I ought to be ashamed of myself for indorsing the remedy. I have been trying to preach the old, old gospel of Christ about fifty-five years, and I am not aware that anybody ever before said I "ought to be ashamed" of something I had done. In my indorsement, which you can find in the *Microcosm*, I stated I would not quit the practice for the half of Texas, and I repeat here that I would not. I have been using it about eight months, and, humanly speaking, it saved my life. If the doctors knew of this, why did they not charge me for a prescription and tell me it would cure me? Dr. Hall admits the remedy has been known to some extent, but never in its application, as he has revealed by his own experience of forty years ago. I must say I think you are slandering him. I feel sorry to have to write to you in this way, but I could not satisfy my mind without doing it. If you had been in the spirit in which you mostly write, I am very doubtful about your writing any of the article. Our business relations have been very satisfactory, and I wish you every good; but I think you have made a mistake. I remain yours very respectfully,

Luling, Tex., May 22.

S. C. ORCHARD.

Dear brother, I can not for a moment doubt the kindness of your heart, or in the least the honest sincerity of your motives; still, I think you are making a mistake. The editorial you allude to was written by your old friend A. I. Root himself, and I think that no motive but love to his fellow-men prompted him to write it. No doubt you have been greatly benefited. You are full of enthusiasm in regard to the plan, new to you, of treating disease without medicine. Are you sure that you consulted a physician in regard to your poor health, and stated to him exactly where you thought the trouble lay? Perhaps our physicians have been remiss. Doctors, and others who have much to do with humanity, are used to these sudden excitements in regard to certain things that come up. Very often it is a revival of some old thing, and sometimes it is really some new development; but, dear brothers, all of you, shall we not keep in sight that grand truth once uttered by Gamaliel when he said, "If this counsel or this work be of men, it will come to naught; but if it be of God, ye can not overthrow it"? Meanwhile the testimony of our best doctors, ministers, and professors in our colleges, will say unmistakably that selling secrets for money, in answer to broadcast advertising, is certainly not only wrong, but it is not up with the spirit of the age and of our American institutions. The man who does it has a bad heart. I am well aware that Dr. Hall gives his pamphlet to ministers of the gospel, free of charge; but, dear friends, is not this whole custom wrong, and bad in its tendency, giving ministers certain things with the understanding they use their influence to get people at large to buy? A great many pastors of churches refuse to receive any thing at less than the price charged other people, in order that they may never be accused of having selfish motives in what they advise. Our good friend Terry recently refused to receive a potato-digger as a gift. He insisted on paying the same price that others do, so that he might, when writing through the agricultural papers, express an unbiased opinion either for or against it.

THE NEW YORK STATE BEE-KEEPERS' ASSOCIATION HAS gotten out a very neat and nicely printed report of its 21st annual meeting, held at Rochester, Feb. 6, 1890. A copy of the same can be furnished by the secretary, Mr. George H. Knickerbocker, Pine Plains, N. Y.

PROSPECTS GOOD.

ALTHOUGH the rains have been rather excessive and frequent throughout the country, the prospects are generally good. White clover is reported everywhere as doing finely; and if we do not have rain or cold through the time it yields nectar, there will probably be a pretty good yield from this source.

BEE-KEEPING FOR PROFIT.

THIS is the title of a pretty little work by Dr. G. L. Tinker, of New Philadelphia, O. It is nicely printed, and well arranged. Each topic is put in big black type, for the convenience of the reader. It details Dr. Tinker's new system of management in connection with the new hive. Price 25 cents, postpaid. Address the author, as above.

BEEES AND HONEY.

THIS work, by T. G. Newman, has just been revised. It has been largely re-written, and is fully up with the times. It contains 200 pages, and is well and fully illustrated. Of course, being published by T. G. Newman & Son, its typographical appearance and binding are par excellent. It is written in Mr. Newman's vigorous style, and fills an important place in bee-literature. Price \$1.00, postpaid. We can furnish it if desired.

MANUFACTURED SCIENCE, AGAIN.

THE *Pharmaceutical Era*, of Detroit, Mich., for May 1, contains a brief summary of Mr. Allen Pringle's article which appeared in the *Popular Science Monthly*, as above. After quoting Prof. Wiley's statement in the *Popular Science Monthly* for 1881, to the effect that "commercial honey is entirely free from bee mediation, made of paraffine filled with glucose by means of appropriate machinery," and after quoting his lame apology seven years afterward, to the effect that he repeated "this statement more in the light of a pleasantry than as a commercial reality," and that he does not believe it possible to imitate comb, etc., the editor says: "If the latter gentleman did not at the time, and does not at the present believe in the existence of a manufactured honey, as his last-quoted statement above would seem to indicate, he certainly owes it to himself and the chemical fraternity in general to offer a satisfactory and sweeping retraction."

Yes, sir, he certainly has owed it ever since 1881 to himself and to the chemical fraternity, and also to the bee-keepers all over the land, to offer a satisfactory and sweeping retraction. Prof. Wiley is certainly put in a very bad light in scientific circles. The only thing he can do now is to offer an humble apology and sweeping retraction. A scientific man in his position in the government ought to be ashamed of himself for all these years of silence. We are very glad that Mr. Pringle has shown him up in scientific circles in the vigorous manner he has. The editor of the *Pharmaceutical Era* closes up with this paragraph:

"As the matter involves primarily the integrity of a well-known scientist, and, secondarily, the reliability of important methods of chemical analysis, it is

to be hoped that it will receive the careful attention of chemists."

We trust this matter will now be taken up and circulated over the country; and that the pressure will be so great upon the professor that nothing but a satisfactory and sweeping retraction and apology will be forthcoming.

YELLOW BANDS; BEAUTY VERSUS UTILITY.

ONE of our subscribers, Mr. Jacob T. Timpe, of Grand Ledge, Mich., sends us some yellow-banded workers. It is proper to say, however, that these bees show the characteristic Cyprian shield at the base of the thorax, and probably have a large percentage of Cyprian blood, although our friend said they were very gentle. Cyprian bees show wider yellow bands, and are more inclined to show the fourth band, than are the ordinary pure Italians. Since our editorial on page 378, in our last issue, our apiarist reports some four-banded bees in our own apiary. By looking up the record we find that the queen came from Mr. W. P. Henderson, of Murfreesboro, Tenn. Mr. H. is breeder of nice queens, and a fancier of yellow bees. We hope that our friends, in selecting for color, will not overlook the matter of utility. Perhaps we can have beauty and utility combined. There are several desirable qualities which we should like to have in our bees; and these might be stated in the order of their value thus: Good workers; non-swarmers; hardiness; gentleness, and beauty. What we want *most* is bees that will secure large yields of honey when others at the same time will be getting but a small yield; and if beauty can be hitched on too, we shall not, of course, object. But there is a little tendency to overlook working qualities for golden yellow bands. In fowls, beauty and business often go together. The writer (E. R.) has some White Leghorn hens "over home" that lay eggs *every day*, Sundays included, week after week. They haven't time to sit; and are there any prettier hens than White Leghorns? Now, then, can the bee-fancier do as well as the poultry-fancier?

PRICE LISTS RECEIVED.

The following parties send us their price list:

J. B. Kline, Topeka, Kan.
J. C. Sayles, Hartford, Wis.
F. C. Erkel, Le Sueur, Minn.
B. P. Barber & Son, Colebrook, O.
J. B. McCormick, Fredericksburg, O.
G. H. Knickerbocker, Pine Plains, N. Y.
Martin & Macy, North Manchester, Ind.
M. A. Williams, Berkshire, N. Y.; calendar style.

ALBINO * QUEENS.

I will furnish pure queens of this gentle and beautiful race of bees this season at the following prices: Extra select tested, \$1.50; Warranted, 75c.

JOSEPH MOSER,
Festina, Wineshick Co., Iowa.

*J. W. Taylor has Fine * * * **
** * * Albino and Italian Queens*
That he will sell as cheap as the cheapest, and guarantee safe delivery.
J. W. TAYLOR, - - OZAN, - - ARKANSAS.

JAPANESE BUCKWHEAT

75c Per Bushel; 17c for Bag.

Warranted pure seed; 10 bushels or more, 70c.
W. D. SOPER, Jackson, Mich. Box 1473.

In writing to advertisers please mention this paper.

LOOK HERE!

Italians and Albinoes, or their Cross.

These bees are as fine as can be found in the country, and will be sold as follows:

	MAY.	JUNE.	JULY.	AUG.	to NOV.
Untested, each. \$	1.25	\$1.00	\$1.00	\$.75	\$.75
" 1/2 doz.	5.50	5.50	4.50	4.00	4.00
" 1 doz.	10.00	9.50	9.00	8.00	8.00
Tested, each	2.50	2.50	2.00	1.50	1.50
" two.....	4.50	4.50	3.75	2.75	2.75
Select tested.....	3.00	3.00	2.50	2.00	2.00

I have taken C.S. Kildow in partnership, and we will fill all orders promptly. Send for catalogue.

A. L. KILDOW & BRO.,
Sheffield, Ill.

7-9-11-13-15-17d

16 In responding to this advertisement mention GLEANINGS.

MY 22D ANNUAL CATALOGUE OF ITALIAN, CYPRIAN, and HOLY-LAND BEES, QUEENS, NUCLEI, COLONIES, and SUPPLIES; also EGGS FOR HATCHING. can be had by sending me your address. **H. H. BROWN, Light Street, Col. Co., Pa.**

16 In responding to this advertisement mention GLEANINGS.

1890 ITALIAN QUEENS. 1890

Six young queens, warranted purely mated, for \$5.00. English rabbits, \$1.00 per pair. Mammoth bronze turkey eggs, 25c each; 9 for \$2.00. Send for circular.

7tdf

J. T. WILSON.

Mention this paper.

Little Hickman, Ky.

SECTIONS, \$3 PER 1000.

Foundation, Alsike clover seed, and Japanese buckwheat, cheap as the cheapest. Special prices to dealers. Send for our FREE PRICE LIST.

M. H. HUNT, Bell Branch, Mich.

Please mention GLEANINGS.

1tdf

BEAUTIFUL BEES are always pleasing to the eye. GOOD QUALITIES are always profitable.

If you want Bees and Queens that combine beauty and good qualities to a marked degree, write for circular giving low prices. No circulars sent out unless applied for.

CHAS. D. DUVAL, Spencerville, Mont. Co., Md.

5tdf

16 In responding to this advertisement mention GLEANINGS.

Cash for Beeswax!

Will pay 25c per lb. cash, or 28c in trade for any quantity of good, fair, average beeswax, delivered at our R. R. station. The same will be sold to those who wish to purchase, at 31c per lb., or 35c for best selected wax.

Unless you put your name on the box, and notify us by mail of amount sent, I can not hold myself responsible for mistakes. It will not pay as a general thing to send wax by express.

A. I. ROOT, Medina, Ohio.

Barnes' Foot-Power Machinery.



Read what J. I. PARENT, of CHARLTON, N. Y., says — "We cut with one of our Combined Machines last winter 50 chaff hives with 7-inch cap, 100 honey-racks, 500 broad frames, 2,000 honey-boxes, and a great deal of other work. This winter we have double the amount of bee-hives, etc., to make, and we expect to do it all with this Saw. It will do all you say it will."

Catalogue and Price List Free. Address W. F. & JOHN BARNES, 545 Ruby St., Rockford, Ill.

When more convenient, orders for Barnes' Foot-Power Machinery may be sent to me. A. I. ROOT.

23tdf

VANDERVORT COMB FOUNDATION MILLS.

Send for samples and reduced price list.

JNO. VANDERVORT Laceyville, Pa.

HEADQUARTERS IN THE SOUTH.

FACTORY OF BEE-HIVES, ETC.

From now on I will sell my 4-frame nuclei, with Italian queen, at \$3.75. In lots of 5, at \$3.50 each. Untested queens, at \$9.00 per dozen in June; \$8.00 per dozen in July. Satisfaction and safe arrival guaranteed. Twelfth annual catalogue.

9tdf

P. L. VIALON, Bayou Goula, La.

Please mention this paper.

Bee-Keepers' Supplies.

WHY * SEND * LONG * DISTANCES ?

SEND NAME ON POSTAL CARD FOR MY
NEW PRICE LIST TO

C. P. BISH, Grove City, Mercer Co., Pennsylv'a.

Formerly of St. Joe Sta., Butler Co., Pa.

ESTABLISHED IN 1884.

9tdf

Please mention this paper.

BEES

SEND for a free sample copy of the BEE JOURNAL — 16-page Weekly at \$1 a year — the oldest, largest and cheapest Weekly bee-paper. Address BEE JOURNAL, Chicago, Ill.

16tdf

Please mention this paper.

LOOK HERE!

Bee-Keepers and Fruit-Growers, before you order your supplies for 1890, send for my catalogue and price list of Bee-Keepers' Supplies and Strawberry Plants. Twenty-five approved varieties grown for this season's trade. Prices reasonable. Bees and Queens for sale; \$1.00 queens a specialty. Address F. W. LAMM, 24-23db (Box 106.) Somerville, Butler Co., Ohio.

Please mention this paper.

THE BEST THING OUT FOR GETTING BEES OUT OF SUPERS.

The Dibbern Bee-Escape.

Get a pattern, and be sure you have it just right. Now perfect. Tinned wire cloth, soldered on tin. Instantly removable. Sample cone by mail, 35c. Complete board, express, 50c.

5-15d

C. H. DIBBERN, Milan, Ill.

16 In responding to this advertisement mention GLEANINGS.

ENGINES, SIMPLE AND COMPOUND.

We have been having built, specially for bee-hive work, a superior grade of engines. They are heavier, and better built, steel and wrought iron being used in several of its parts where cast iron is ordinarily used on ordinary trade engines. Our prices are as low as can be obtained on engines of an inferior grade. Prices: Simple engines, without boiler, 2 1/2-horse-power, \$75.00; 5-horse-power, \$100; 7 1/2-horse-power, \$125; 10-horse-power, \$150. Compound engines, without boiler, 2-horse-power, \$100; 4-horse-power, \$133; 6-horse-power, \$167; 8-horse power, \$200. The above prices include lubricators, throttle-valves, and governor belt. In our compound engines the steam is used over again in a larger cylinder, thus economizing fuel, and these in small powers you will not be likely to get elsewhere. We have tested these engines thoroughly, and they give us good satisfaction. On engines and boilers combined, write for prices. For further particulars write us.

A. I. ROOT, Medina, O.

A Four-Color Label for Only 75 Cts. Per Thousand!

Just think of it! we can furnish you a very neat four-color label, with your name and address, with the choice of having either "comb" or "extracted" before the word "honey," for only 75 cts. per thousand; 50 cts. per 500, or 30 cts. for 250, postpaid. The size of the label is 2 1/4 x 1 inch — just right to go round the neck of a bottle, to put on a section, or to adorn the front of a honey-tumbler. Send for our special label catalogue for samples of this and many other pretty designs in label work.

A. I. ROOT, Medina, Ohio.

AFTER 10 YEARS,

Owing to fine workmanship and first-class materials used in the manufacture of our goods, our business has reached that point where, without boasting, we can justly claim to be the largest manufacturers in the country of all kinds of

→ BEE - KEEPERS' SUPPLIES. ←

The reason of our constantly increasing trade, notwithstanding the great competition, is, that when we get a customer we keep him, as we furnish superior goods at lowest prices.

We wish to also state, that we are sole manufacturers of the

ARTHUR C. MILLER AUTOMATIC FOUNDATION FASTENER.

(See description in March 15th GLEANINGS.)

If You Need Any BEE-HIVES, SECTIONS, FOUNDATION, Etc.,

Send for catalogue and price list. Address

The W. T. FALCONER MFG. CO., Jamestown, N. Y.

(In responding to this advertisement mention GLEANINGS.)

REMOVED, from Coburg to RED OAK, IOWA, my entire factory for

BEE SUPPLIES.

Wholesale and Retail.

40-page illustrated catalogue FREE to all. 4tfdb Address **E. KRETCHMER, Red Oak, Iowa.**

(In responding to this advertisement mention GLEANINGS.)

CARNIOLAN QUEENS,

BRED FROM AMBROZIC AND BENTON

Imported 1889 Queens.

Circular of Supplies | **J. B. Kline's Apiary,**
and Queens. 7-13d **Topeka, Kas.**

(In responding to this advertisement mention GLEANINGS.)

Western Bee-Keepers' Supply House

Root's Goods can be had at Des Moines

Iowa, at **Root's Prices.**

The largest supply business

in the West. Established 1855

Dovetailed Hives, Sec-

tions, Foundation, Ex-

tractors, Smokers, Vels,

Crates, Feeders, Clover

Seeds, etc. Imported

Italian Queens. Queens and

Bees. Sample copy of our

Bee Journal, "The West-

ern Bee - Keeper," and Latest

Catalogue mailed Free to Bee-keepers.

JOSEPH NYSEWANDER, DES MOINES, IOWA.

(In responding to this advertisement mention GLEANINGS.)

J. C. SAYLES,

HARTFORD, WIS.,

Manufactures Apiarian Supplies of Every
Description. Catalogue Free to All.

3tfdb **Send Your Address.**

(In responding to this advertisement mention GLEANINGS.)

Established 1878.

SMITH & SMITH,

Wholesale and Retail Manufacturers of

BEE - KEEPERS' SUPPLIES.

KENTON, OHIO.

Price List Free.

Mention Gleanings.

TAKE NOTICE!

BEFORE placing your Orders for **SUPPLIES,** write for prices on One-Piece Basswood Sections, Bee-Hives, Shipping-Crates, Frames, Foundation, Smokers, etc. Address

R. H. SCHMIDT & CO.,

21-20db **NEW LONDON, Waupaca Co., WIS.**

(In responding to this advertisement mention GLEANINGS.)

IMPORTED QUEENS.

In May and June, each,	\$2 00
In July and August, each,	1 80
In September and October, each,	1 40

Money must be sent in advance. No guarantee on shipments by mail. Queens sent by express (8 at least), which die in transit, will be replaced if returned in a letter.

1-11d **CHAS. BIANCONCINI, Bologna, Italy.**

Carniolan * Bees.

PLEASANTEST BEES IN THE WORLD.
BEST HONEY-GATHERERS.
HARDEST TO WINTER.

IN ORDER TO INTRODUCE NOT ONLY THE BEES, BUT OUR PAPER,

"THE ADVANCE,"

We offer to any one who will send us \$1.25, a copy of our paper and a nice Carniolan queen. The queen alone is worth \$2.00. Address

THE ADVANCE, Mechanic Falls, Me.

Please mention GLEANINGS.

9-11-13d

PATENT WIRED COMB FOUNDATION

HAS NO SAG IN BROOD-FRAMES.

THIN FLAT - BOTTOM FOUNDATION

Has No Fish-bone in Surplus Honey.

Being the cleanest is usually worked the quickest of any Foundation made.



J. VAN DEUSEN & SONS,

Sole Manufacturers. 51fd

Sprout Brook, Montgomery Co., N. Y.

(In responding to this advertisement mention GLEANINGS.)

CARNIOLANS.

We make Carniolan bees and queens a specialty. See our prices before placing your orders. Our stock of Carniolans can not be excelled by any. Descriptive circular and price list for 1890 now ready. Write for it. Address **F. A. LOCKHART & CO.,**

5tfdb

(Formerly of Andrews & Lockhart.)

Pattens Mills, Wash. Co., N. Y.

(In responding to this advertisement mention GLEANINGS.)